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BEING A PRACTICAL COMPANION TO THE "ELEMENTARY STUDIES IN GEOGRAPHY AND HISTORY"

BY

H. J. MACKINDER, M.A., M.P.

READER IN GEOGRAPHY IN THE UNIVERSITY OF LONDON; LATELY READER IN GEOGRAPHY IN THE UNIVERSITY OF OXFORD, FORMERLY PRINCIPAL OF UNIVERSITY COLLEGE, READING, AND AFTERWARDS THE DIRECTOR OF THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE, MEDALLIST OF THE ROYAL SCOTTISH GEOGRAPHICAL SOCIETY, OFFICIER DE L'INSTRUCTION PUBLIQUE DE FRANCE

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PREFACE TO THE SECOND EDITION

THIS book has been written to redeem two promises made in regard to my "Elementary Studies." In the preface to the earlier editions of "Our Own Islands" I said that the first steps in geography and history should be trodden with the help of the living teacher alone At the same time I promised to say along what path in my opinion those steps should he guided. It is to this subject that the earlier chapters which follow have been devoted.

My other promise, frequently made to practical teachers has been that I would write a commentary on the volumes of this Series, such a commentary as would be suggestive of oral teaching in connection with them. That is the design of the later chapters of this book. A series of questions and exercises has been published separately.

In this way I hope that I have succeeded in my endeavour to be of practical service to the teacher, and at the same time to give to the pupil, not text-books cumbered with dreary "apparatus" of lists and notes, but works to be read through because they give pleasure. Our teaching of Geography and History will have failed unless our pupils go forth into the world with a liking for books, and for the better sort of newspaper.

My commentary is relatively detailed in regard to "Our Own Islands," and becomes gradually less detailed as the Series progresses, except where it is desired that some essential difficulty should be faced and grappled with. It is of set design that the commentary thus peters out. Children should be gradually weaned of the teacher's help, so that on leaving school they may be able to read a book intelligently without assistance.

As to the combination of geography and history in the earlier stages of teaching, and as to the priority of geography,

I have written in the body of this book and also in the Preface to "Our Island History." Every experienced teacher knows the pressure that is on him to teach many subjects. He is also convinced that no true education is to be had except from the thorough teaching of a few subjects. The combination of the "Outlook" Subjects into one theme of teaching, with a single design from the infant's school to the end of the fourteenth or fifteenth year, is the aim which I have set before me.

I have written this book in the first person, because I am addressing teachers as a fellow teacher, but I do not wish to be dogmatic in regard to my opinions, although they are the outcome of a long specialised experience. On the contrary I shall always welcome criticism with a view to future editions.

To save space I have often thrown suggestions into an imperative form, and after the first chapter I have referred to the teacher uniformly in the masculine. I make my apology to those who constitute the majority of the profession.

H. J. MACKINDER.

June, 1918.

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THE TEACHING OF GEOGRAPHY AND HISTORY

I

IMAGINATION

A CHILD loves the things which it can see and touch. It wakes to the world with two separate powers—the power of movement and its attendant sense of touch, and the power of seeing. These two powers have to be correlated, and a healthy child is ceaselessly experimenting. It has to learn what *would* be the feel of the many things which at a given moment it can see but not touch. Its whole mind is concentrated on the effort of interpreting things visible at a distance in the terms of things reachable and touchable. Before it learns to speak it must learn to see coherently. When it sees coherently it can locate the source of noises.

Part of this wonderful experience which we adults have forgotten lies in varying at will the pattern seen. The pleasure of moving is enriched with its visible or audible results. Thus self gets mixed inextricably with the not-self outside. Neither in regard to seeing, hearing, nor doing is the distinction at first clearly drawn between day-dreams and facts. So come play and all the make-believe of childhood.

Education begins in play, just as we are told that the high arts of music and poetry had their origin in dancing. True that it is the function of the teacher to inculcate morality, and

that the very essence of morality lies in a keen sense of the distinction between facts and thoughts. For social reasons we must teach morality. Our aye must be aye, and our nay nay. Yet at what risk to vivid simplicity, and ultimately to religion, which depends on imagination, do we insist on distinguishing the two realities, the outer and the inner! Who can say how often a sensitive child has been permanently injured by being punished for a lie when it has told what it has truly seen, but with the mind's eye! A small girl will make a battered, headless doll the object of her mothering solicitude. A small boy, with a turn for geography, will picture himself as king of an island, which he rules according to his humour, killing its inhabitants or drilling them. Who has not met the child who will tell you innocently long stories of what it has done when in fact it has done nothing of the sort! The nursery word for a lie is "story." Surely it is no exaggeration to say that well-intentioned roughness may extinguish for ever the aurora which is genius. Almost all fine origination in the adult comes from the power of thinking in images, or as we say, of visualisation. Constructive genius lies in the child-like power of seeing "what is not" continued without break from "what is," or, in other words, of piercing through the material into the immaterial world. The prophet, poet, philosopher, and scientific discoverer have "insight" for their essential power, or the power of reading more into facts than is obvious to the plain man.

The problem of the teacher is to strive always for the incompatible. On the one hand she has to instil the social qualities of self-control and self-examination; on the other hand she must cherish the luxuriant, reckless, and self-forgetful power of imagination. She has to maintain her poise on a knife-edge, falling neither to the right into the encouragement of a moral vagueness, nor to the left into the punishment of those who see visions. As mountains may be moved by faith, so this miracle of the incompatible is achieved through sympathy, and through appeal to what may be described as the imitative or sympathetic imagination. There are two

separate qualities here demanded of the teacher, the one fairly common and characteristic of every teacher who ought to be a teacher, the other rarer but to a large extent capable of being trained. On the one hand is sympathy. The child willingly imitates those whom it loves, and loves those who understand it. On the other hand, if the teacher is to make effective use of the imitation which comes of love, she must herself have preserved her own childish power of thinking in images. She has to inspire enthusiasm for her subject, therefore she should have made a special practice of visualisation in connection with it.

All good teaching, both of geography and history, depends upon the appeal to visualisation. Gradually, very gradually, the teacher may harness the native power to accurate uses. The one deadly sin in the early stages is hurry. Just as we may kill individuality by denying the reality of that which is real to the child, so may we kill it at a later stage by substituting mere symbols for real images. In geography and history the besetting symbols are words. Every time that we teach a name with no real image attached we are causing "little ones to stumble." Four times out of five the temptation so to teach comes from the need or supposed need of hurry, and the fifth time it is from the fact that the teacher has herself fallen into the pit which she is digging. She has lost her own grip on realities. To a large extent her mind has become blind and can only hear.

We may begin to prepare for the teaching of geography and history from the day that the child is able to look out to the horizon and to wonder what lies beyond the Here and Now. He has learned to see what he cannot reach and touch, and now we have to take him on the wings of his facile imagination only a little further into the regions which he cannot even see. Both geography and history involve the picturing of absent things and movements, some absent in space and some in time, but most in both.

Let us think of teaching as a matter of skilled gardening. From the first the gardener pictures clearly the garden which

he hopes to make, but he knows that the actual growth must be done by the young vegetation itself. His function is to bend and to train so gently that he does not break the tender stalks, but so persistently and with such steady aim that in the end he creates a unity, the complex unity of a garden, in the place of what would have been wild overgrowths and undergrowths.

We begin with our Five-Year-Old at play. We follow his whims and chances, but silently we look three or four years ahead. We are conscious of our aim. We apply pressures ever so gently, with the object of guiding his play, and presently his conscious imagination and activities, along the roads that we would have him go. There are some six of these roads to be traversed, and then the introduction to geography itself, before we begin our first book on geography at the age of eight or nine years.

The first and the second of our roads, starting directly out of the freest and youngest play, are the twin roads of drawing and modelling. The third and fourth roads are comprised in what is known as Nature Study. The third follows the flow and the ebb of animal and vegetable life through the year, and the fourth follows the circulation of water from sea to sky and back to sea. The fifth is the romantic road of tales from the Wonderbook, tales of distant lands and "once upon a time." The sixth road goes with the sun in his apparent path from dawn to dusk and beyond: it leads to the conclusion that the earth is a body hung in space.

It is suggested that the teacher should guide her young pupils along these six roads simultaneously. All six will at last emerge together where geography begins. Arrived in the promised land, the teacher will take a large ball into her hands, upon which are simply painted the continents, and no names or lines of latitude and longitude, and she will teach the great features of the world's geography as shapes.

Our six roads end on that globe: they have been aimed there from the beginning. The children will exercise upon it the six facilities which they have won. They will (1) draw

their own first maps from the continents shown upon it. They will (2) mould from the maps so drawn, and pour in water around to represent the ocean. With their fingers tracing little circulations on the globe, they will picture (4) the mists rising from the ocean and descending on the continents in rain, and will see the (3) annual crops growing in the moisture and sunshine Where the land is rainless they will learn to recognise the Sahara of their (5) Wonderbook with its sandstorms and camels. Where the land is drenched in Central Africa they will imagine dark forests and pigmies. Finally (6) the sunshine from a lamp will divide the day from the night, and the continents on our globe will rotate successively into the day.

The question for the teacher is not what she happens to know and what it is convenient to teach, but the sort of man or woman that she would turn out. Teaching is a fine art. As an artist the teacher must know the material in which she works. That material is the child, and the subject is but a tool. Yet there is no skill with the tool which is lost, for children are relentlessly logical. Their imagination makes them, within their lights, fine critics. The Master (with a capital M) of any subject will find his powers on the stretch as he teaches a bright child.

The accomplished teacher will so work that every step she takes is a step forward to the end foreseen. True that she may start now at this point, now at that, and yet afresh at some third point according to the opportunities of the moment. She will leave many tag-ends, but sooner or later she will come along and twist them all into a strand. I am not sure that the more skilful half of teaching does not lie precisely here. There are few joys greater than the intellectual joy of suddenly seeing the correlation of things which beforehand were detached. Flashes of glorious light come to the young as their items of knowledge merge into order. Once or twice to have seen that light, is to have had our intellectual hunger roused. Great is the reward of the teacher who has deftly prepared the surprise.

The object of the foregoing paragraphs has not been to

demonstrate the whole art of teaching infants, but merely to show how naturally the teaching of geography springs out of our more modern ideas of early education. I have endeavoured to tell the kindergarten mistress what powers we geographers and historians most value in our pupils and in what directions we would like to see those native powers fostered by her skill.

II

THINKING IN SHAPES

THRING, the famous headmaster of Uppingham School, once remarked that the true geographer thinks in shapes. Might we not complete the idea with the statement that the true historian thinks in movements—movements upon the shapes of the geographer? Both of them see with the mind's eye.

Max Müller held that thought cannot advance except by the use of words, and no doubt he was right. But it is none the less true that the earliest stages of thought are probably without words, and it is certainly true that when words have done their work the most rapid and comprehensive stretches of thought are with the mind's eye rather than with its ear. Take a simple experience as a test. A candidate for examination runs over his knowledge. With his finger on the map of England, let us say, he comes up Southampton Water with Cerdic and founds Winchester. The finger marks time and years pass, and then Alfred of Winchester retires for refuge into the marshes of Somerset. He emerges victoriously on to the Berkshire Downs, and drives Guthrum back into the Danelaw. Finally the frontier between the realms of Wessex and East Anglia is drawn "up on the Lea to Ware, and along the Lea to its source, then right to Bedford, and from Bedford up on the Ouse to Watling Street." With a quick movement of eye and finger over the map, far quicker than the cumbrous sentences could follow, the student knows that he knows, and has confidence. There is no haziness about such knowledge. It can be used for drawing of inferences, and can be applied to new circumstances. A name may slip the memory, but the knowledge stays with us none

the less. The name when recovered returns into its right place and connection. Even ordinary words may for a time fail us, but we are left gesticulating because the shapes remain.

Every child should learn to model and to draw with a free hand. The object is not so much to enable him to express himself—still less to make an artist of him—as it is to teach him to think visually with readiness and accuracy. The native power is there, and needs only to be trained to act at command. In my opinion modelling and drawing should take much of the time which is now often devoted to learning by heart. The true use of words is to describe that which we see with our own mind's eye. The danger of too much learning by heart is that we get into the way of quoting what others have seen with *their* mind's eye. The music of language is such that we are all of us constantly under the temptation to accept second-hand seeing.

How often has not a speaker carefully chosen his words, and coined fresh metaphors, only to find that the reporter has substituted hackneyed phrases and threadbare metaphors, the current coin of the journalism of the moment. The reporter must epitomise, owing to the limits of his space, and in doing so degrades his copy unconsciously in obedience to the law of his calling, which demands that he should not ask for much effort of thought from his public. The catch phrase and the oft-repeated metaphor produce a certain kind of pleasure in the reader, the pleasure of recognition by the mind's ear. It is a musical pleasure in its essence, but it is fatal to original thought. Those catches and metaphors were vivid and stimulating once, when first coined to express the vision in the author's mind. Now, owing to repetition, they have the effect of a lullaby. The verbal memory is less suggestive and less subtle than the visual memory.

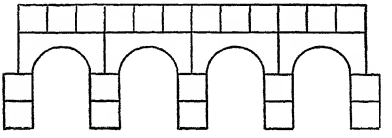
Modelling should, if practicable, be taught before drawing. The things around us are solid. Their presentation on the flat is an abstract process, a step away from the real, a symbolism. It is enough, in the first place, to think in solids, without

the complication of translating from the flat into the solid. If you would learn to speak a foreign language fluently you must think in that language, and not translate, as you talk, from your mother tongue.

Among the memories of my childhood I have one so vividly to the point, that I am going to set it on record. In my nursery we used to "play at cubes," as we said. I knew *practically* what a cube was before I knew what a square was. Our "cubes" were bricks for building houses and railways, and all the other constructions of the nursery. They were none of your soft bricklets of pinewood, with rounded and dented edges, and with pictures pasted over them. They were blocks of hard oak, a good three inches across, cut truly, so that each face was a square, each edge a line, and each angle a point. In the process of our building we learned that our cubes were accurately interchangeable. There was no trace of a picture upon them. They were sternly, oakenly, wooden. All the wall paintings and papernings in our houses were added by our telling to one another. Though we had thus everything that we needed by way of anchor to our mind-play, there was nothing, and this is the point of the experience, to distract our observation from the facts it was intended that we should learn.

Presently each face of our cubes became known to us as a square, the intersection of two faces became a line, and the corner where the three right angles met became a point. We had also oaken pyramids on square bases, so that triangles became familiar to us. We had arch-pieces also, one "cube" thick, three "cubes" long, and one and a half "cubes" high. The arches cut into these pieces were semicircular and had a radius of one cube. So we could build bridges of many arches, the springs of two arches resting accurately on one cube, and three cubes resting upon each arch-piece. We knew (practically) the relation of a circle to a sphere, because we had an oaken ball which would exactly pass through two of the semicircular arches placed so as to make a circle, and we had hemispheres in oak which

when fitted together were interchangeable with the sphere. We knew (also practically) what was the cube of a number before we knew its square, for anybody could see that eight of our cubes could be so put together as to make a big cube measuring two cubes a side. To-day the word "cube" still raises half consciously in the back of my mind one of those brown, oaken, sharp-edged blocks. Euclid's definition of a square is mere verbiage to me. I can see *the thing* in oak, whenever I please.



No doubt there are many who could tell of a similar experience, but it is certain from much evidence that vast numbers have minds that were maimed in childhood by learning the name before the thing. How infinitely superior the play of a child's mind on those plain wooden blocks than on the artificial and meaningless intricacies of a jigsaw puzzle! Pity, too, the child of the rich nursery whose toys are so costly that its imagination can never play round essentials, because it is debauched by "working parts," and other machineries of luxury!

There is no other place of early education which is the equal of the seashore. The sea and the land present a fundamental contrast. The horizon, and the tides, and the arch of the sun's path speak, though without words, of the vast and rhythmical universe. The shore talks in a simpler, more essential way than does even the wooded landscape. Given a few days to wear off the strangeness of freedom, and the soul of many a town-bred child responds to the lessons of the shore as a lark does to the sky. Then there are the animals and plants of the pools for companions, like and yet so unlike those of the land, enriching the eye-memory with weird forms, colours and movements. Finally there is the sand, wet and dry, from which we may shape castles, and towns, and valleys, and rivers, and may people them with ourselves or with

fairies, as the spirit within us happens to be active or contemplative. Or if we be combative we may fight the sea itself and stand its siege.

Lucky the child with a parent imaginative enough to seize the opportunity of the seashore for modelling hills, mountains, valleys, islands, peninsulas, straits, and isthmuses! I would begin with islands. They remain for a bit amid the excitement of the rising tide. Islands may consist of two peninsulas, connected by an isthmus, like the island of Tahiti in the Pacific Ocean. For older children there are coral islands with lagoons within, and (imagined) cocoanut palms—the tales heard at the mother's knee reconstructed in sand.

If you cannot have the seashore for a week or a fortnight, then by all means have a sandpit in the playground. But a sandpit is second best. It is artificial, and the child's mind is diverted to its squareness and its boarded edges. It is like a cage to an animal, however spacious and airy you make it. The mind will not move quite so freely and imaginatively as on the shore.

If it were possible I would have national schoolhouses along our coasts, and once a year for a week or ten days I would transport thither in turn each of our town schools. The teachers would soon learn to make the most of the opportunity, and I firmly believe that the nation would reap a full reward from the liberation of the little minds cabined in the artificialities of our streets and even of our beautiful public parks.

So much for the study of the solid before the flat. The inference is that modelling should precede drawing. For practical reasons, however, drawing will often begin before modelling, and is certain to begin not much later. A pencil and scrap of paper are at hand almost everywhere, and the child will often insist on imitating its writing elders. Let it then pencil, but on the one condition that you do not interfere with it. It is drawing what it sees, and in what it has drawn it sees more than you see. If you interfere the chances are that you make it draw what it does not really see, and

intellectually that is the original sin. If you wish to make it draw better, then try to make it see better, and judge humbly of your success or clumsiness by the drawing which ensues.

A few years ago most of us were startled by the result of putting a brush and water colours into the hands of children. Yet there was nothing which should have been surprising on the principles we are now discussing. The appreciation of colour comes before that of form, just as the realisation of the solid is simpler than that of the outline. Every critic knows that for one artist who can draw well there are ten who can colour well. It is curious how our educational methods of a generation or two ago inverted the natural order. We taught grammar before language, drawing before painting, Euclid before carpentry—everywhere the analysis, the abstract, and the reason, before the real vivid fact itself.

As we near the end of our three years (6th, 7th, 8th) of childish education, when toy and spade, and brush and pencil have done their work, we may begin to combine modelling and drawing, and then to combine both with measurement. Let us first draw with freehand from the models we have made, seeking no premature accuracy. If you wish to remain interesting to your pupil, and that is the first duty of a teacher, never require accuracy, except where the child has itself seen the need of it. You may be sure that genius will in the end take the trouble to be very accurate, where accuracy matters. Any pedant can acquire stupid accuracy of the letter.

Gradually our freehand drawing comes to have a sense of proportion about it when compared with the model, and then we may begin to draw or to plan to scale. But here again let us beware of premature accuracy, and especially of the instruments which subserve accuracy. They tend to divert attention from essentials. Let us *pace* our distances out in the first place. Then we realise that paces are not all equal, and we substitute footing, with heels touching toes as you step forward. But quickly we realise that even feet vary in length, and so we come to the idea of a standard foot, no

doubt with a little schoolroom humour in regard to the giant length of a foot of twelve inches

It would be useless to labour these matters further. Our ultimate aim is that our pupils should be able to think in shapes when they are grown up. The course of play and teaching sketched in this chapter may be varied infinitely, for there is no lack among us of love, experience, and invention as applied to childhood All that the geographer has to say to the infant-teacher is that he values childish imagery, and thanks heaven that examiners and inspectors can do little to make teachers in the nursery and kindergarten hurry, and therefore teach impatiently and illogically. Each step of the earliest training should be natural and inevitable, so that the bright child will almost take it for himself, and the teacher need only supply the opportunities and comradeship.

III

OUTLOOK

In the mediæval university the subjects of study were divided into the trivium and the quadrivium. The trivium included grammar, logic, and rhetoric, or in other words the arts of expression. The quadrivium consisted of arithmetic, music, geometry, and astronomy, which were equivalent to the sciences of the modern curriculum. True that arithmetic and music are now mostly thought of as arts of computation and performance, but in mediæval learning they were the sciences of number and harmony.

Is there not to-day on the humbler plane of elementary education a somewhat similar distinction to be drawn between the Three R's—reading, writing, and arithmetic—and what I will venture to describe as the Outlook Subjects, such as geography, history, and religious knowledge? In the one group of studies we practise the arts necessary for expression and calculation; in the other we learn where we are in space, in time, and before God.

A man may read and write, and sum quickly and accurately, and yet be at the mercy of every plausible statement which finds its way into print. He may be so confused by the multiplicity of impressions he receives that he has less judgment than many an illiterate. His mind has no standards wherewith to measure the ideas and facts which pour upon him from our cheap press. He is no scholar, that is to say he has no discrimination. Our object in teaching the Outlook Subjects is to enable young men and women to face the world into which

they have been born, standing four square on a sure mental footing. Knowing where they are they will be efficient and yet modest.

It is now universally admitted that the training of the outlook should begin with the Home, that is to say with the realities which are accessible to a child. To my mind it is certain that the child of rich parents loses in mental perspective from premature travelling. The little observatory is never allowed to stay long enough in a single place to obtain its bearings. It sees many things but never sees thoroughly, in perspective and with correlation, the little universe which is accessible from any one home.

The Germans have invented a subject of early education which they call Heimatskunde—Home Knowledge. We have coined for the same subject the less accurate term Nature Study. As it has developed in our schools Nature Study is not confined to herbarium making and shell collecting, or even to the life of plants and animals through the year. It implies an appreciative outlook upon the whole environment, and that not from a scientific view point only, but from the æsthetic and practical as well.

The first outlook of the child should be quite impartial. All is grist that comes to the mills of its curiosity. Obviously you cannot in Nature Study be very methodical with young children. Their hungry little minds are flitting from new fact to new fact like the butterfly which flits through the schoolroom, and your mind must alertly follow, guiding them ever so lightly, lest you brush away their freshness. None the less the geographer has something to beg of the teacher who answers the questions of children in regard to the home around them. Gradually, very gradually, the child should be got to ask not merely what things are, but how they are connected. On the turn which has been given to the Nature Study of the sixth and seventh years depends the practicability of asking in the ninth and tenth years not merely the question, "Where?" but also the question, "Why there?" In other words, geography can be rationally taught only if the preliminary

Nature Study has been taught with an eye on the geography which is to follow.

It is vital that from the first the teacher should be conscious of his aim. Children very early realise whether they are being guided steadily or are being driven aimlessly. The test of teaching comes when it is time for the child to leave school. Two little people may go out into the world, each fourteen years old, each of them efficiently equipped with the three R's, and with minds stocked with selected facts, and yet the one may be like a ship leaving port with a chart of the ocean to be traversed, and the other may be chartless The one steers its course, picks its way, selects its ideas, rejects immaterial facts, recognises that which it knows, inserts in due place in the memory that which it discovers, and retains its poise and sanity amid the wilderness of statements. The other drifts, now before this wind of opinion and now before that, and burdens its memory with a load of facts which are merely curious, interesting, or obtrusive. The one mind expands throughout life, the other remains essentially infantile to the end. Baffled by the multiplicity of their detached impressions, minds of the latter type resign themselves at last not to understand. They are our intellectual jetsam and flotsam. You will find them in all classes. They are a danger to civilisation, at any rate in a democratic age, for they obstruct political and social navigation.

Two threads of reason should run through Nature Study, which the geographer will pick up and twist into his strand. On the one hand is the life of animals and plants through the year, from seed to flower and back to seed. On the other hand is what Professor Gregory, of Glasgow, has described as "the fundamental geographical process"—the circulation of water from the sea to the cloud, and back over the land into the sea. Of the two let us begin with animate nature. It is more companionable.

Our child is in the infant school—five years old. We have begun teaching it to read, write, and sum. We have to drill

it in the clerkly arts, inevitably with some sense of drudgery. It is impossible but that to some extent school should be irksome. Indeed many would claim that therein lies a part of its moral value. The more reason that you should provide for a pleasurable rebound in the hours devoted to training the outlook. There must be no drudgery then. Your aim is to send the child mentally hungry from school into the world. Therefore with the finest art, the most scrupulous care and forethought, your pupils should be led forward from one joy of discovery and realisation to another.

Begin with flowers. They are coloured, and they are beautiful. Let them be painted freely. As the child paints the buttercup let it discover the five petals. Do not show merely the yellow blossom. Bring the whole plant in a pot. Get it described with brush, and pencil, and in words. Then let it grow. Feed it with water. See the petals fall off, and see the central part of the bloom swell into a pod containing seed.

Now show a bunch of sweet peas. When the first joy in the colour, and in the effort to express that colour has worn off, pull the bloom to pieces and show that strangely different as it is from the buttercup, yet it has five petals. You have given your first lesson in the detection of the like in the unlike, your first lesson of classification, of the seeing into things and not merely the seeing of things.

Take some seeds of mustard or cress. Show that they are seeds, like the buttercup seeds. Sow some of them in three pots. Put one of the pots into the dark, and water it; put another into the light, and water it; and the third into the light, and leave it dry. The first seeds will grow, but will produce pale, diminutive plants. The second will grow into their natural green, and will flower. The third will fail altogether. Question and answer will soon elicit the facts that light and moisture are essential to vegetation.

In cold weather sow some mustard seed, and water it, and let it stand in the light, but out in the cold. No plants will grow. So it will appear that a certain temperature is

also necessary. Then place some seed in a light and warm spot on a bit of cloth, and keep the cloth moist. There will be a small growth, and then the plants will die. With question and answer bring out the fact that there is food for plants in soil, which food is dissolved by water, and is so drunk into the plant through the root. It rises as sap through the stem.

Finally, take some flowers of a juicy character, let us say hyacinths, and placing the stalks through holes in a card, let the card rest on a tumbler of water, with the stems in the water. The card cover to the glass is to check direct evaporation from the water surface. The water will gradually sink low in the glass. Once more questions will bring out the fact that the only possible course for that water is through the plants into the air.

Thus we have built up the idea of the cycle of vegetable life—the beautiful flower, the fall of the petals, the swelling of the heart of the flower so that it becomes a fruit containing seed, the sowing of the seed in soil which is watered and sufficiently warm, the growth of the plant downward into root and upward into stem and leaf, the solution of a part of the soil in the moisture just as sugar may be dissolved in water, the rising of the sap, the expansion of the green plant in the sunlight, the evaporation from the leaf, the formation of the bud, and finally the opening once more of the flower.

Now turn attention to variants of the process. Interweave the experiments with references to the children's food. The orange is a fruit, and the pips are seeds, which will grow into young orange trees if sown in a pot, and watered, and kept warm and in the sunshine. The lemon is of like kind. The carrot, and the turnip, and the potato come from underground. The cabbage, the lettuce, and the watercress are the leafy parts of plants. All this no doubt will be easy for country children, but town children must be led to discover it, or rather to think consciously of what no doubt they have learned from their parents, but have never thought of. Then the wheat plant should be compared with oats and barley. It is astonishing how many town people of mature years are

unable to distinguish a field of wheat from a field of barley or oats. Show quite simply the essential similarity of the humbler grain plants with the great oak tree. Show the acorn and the hay seed.

Thus gradually in the course of two years you will teach the round of organic life. Point out that we cannot eat soil, that we have no roots, that with the exception of salt we feed either on vegetable or animal food, and that all our meats are from animals which themselves eat plants, or else eat other animals which in turn have eaten plants. The very fish pasture on sea-weeds, or devour other fish which have eaten sea-weeds. Thus you illustrate the great truth that "all flesh is grass," and you have taught the fundamental contrast between plants and animals.

Show the spores of a fern frond, and teach that there are plants which do not produce flowers, but bear their seeds on the back of their leaves. Those seeds are known as spores. Then turn to the growth of a mushroom. It can be grown in darkness, for it is not green, but on the other hand it can only be grown in a well-manured soil. It is not a true plant, for it is not green. It is living on the decaying matter from animals and plants. We associate it with dank, dark, and putrid conditions. So you teach the lesson of decay and parasitism.

There is an infinite variety of such teaching. These are merely suggestions. Let us turn to animal life. We will keep silkworms. We buy the eggs, we watch the little caterpillars emerge, and we feed them on mulberry leaves or lettuce. They grow day by day. At last they pass into the chrysalis stage and spin their cocoons. They emerge as moths, and may be kept in a muslin cage until they lay their eggs. The cycle of life is complete. Their food was the vegetable leaf. All flesh is grass.

We will now consider the water cycle. Begin to study it in the winter time, when the conditions are not favourable for vegetable growth. Pour some water into a glass, and keep

it in a warm room. The water will disappear and the glass become dry. Where has the water gone to? Clearly into the air invisibly. This experiment, or that of the cut hyacinths in the tumbler of water, may come first according to opportunity. The one illustrates the other. In the one case attention is drawn to the passage of the water through the plant, and in the other to its disappearance invisibly into the air.

Put a piece of ice into a tumbler of water and take it into a warm room. A dew will form outside the tumbler. Where can the dew have come from? Only from the air. Boil a kettle on the hob. Get the children to notice that just outside the spout there is a space where the steam is invisible. Only beyond this space does the cloud of so-called steam appear. So build up the idea that water vapour, or steam, is in fact an invisible gas like the air itself, and that the clouds in the sky are like the cloud which forms beyond the vacant space outside the kettle spout. They consist of tiny droplets of liquid water. If the air be not too dry, you may often obtain a rain on a cold slab from the steam cloud which comes from the kettle.

Thus you have shown the circuit of the water, evaporating into the air and falling from the air, and you have also shown how that the water may pass through a plant from its root to its leaves as an incident in the circuit. On the way it has dissolved food from the soil, and left it in the texture of the plant.

After a summer thunderstorm see how quickly the pools dry up from the slabs of the pavement. The air is then dry, and therefore drying. Some of the water, however, does not evaporate from the puddles, but flows from the pavement into the gutter, and down the gutter into the stream, and down the stream into the river, and down the river into the sea. But the surface of the sea is like the surface of the water in the tumbler, and moisture rises from it into the air under the heat of the sun. That invisible moisture is drifted landward by the wind and produces the clouds, which send down the rain, thus moistening the soil and feeding the plants.

If the temperature falls the water freezes. It ceases to flow. It can therefore no longer rise through the roots and stem of a plant. Hence the winter rest of the plants, and the bursting of the leaf in the warmth of the spring The blood in our veins is fluid, it is pumped through our bodies by the beating of our hearts, just as the pump, when moved by its handle, sends the water through the spout in spurts. Feel the pulse in the wrist. The flowing blood takes dissolved food to our limbs to feed them. The food is dissolved in the stomach, and it passes as a fluid through the sides of the stomach into the blood. Our stomachs and the roots of plants are therefore similar. You have taught a lesson in philosophy, the recognition of things essentially alike amid the superficially unlike.

If the blood freezes it ceases to flow, and we die, being frozen to death. The blood is like the sap in a plant. But we are not coloured green, because we live like the mushroom on the food which has already been put together from the soil and air by green plants.

The water coursing down the gutter into the stream is muddy. Where does the mud come from? Clearly from the land surface. That must mean that the land surface is in process of being worn away. A bank of mud is deposited where a stream is checked. Often a gutter is choked, and the road is flooded. When the water at last runs off, the road is found to be covered with the mud which has settled in the pool of the flood.

If you have no country roads accessible, then use the modelling trough and the clay to illustrate these things. Train the child beforehand so that it may drink in whole chapters of physical nature when it goes for a day to the sea coast. Tyndall has told us in his printed lectures that when he was a pupil of the great Faraday, he was one day about to show his master an experiment in the laboratory, and Faraday stopped him, and asked to be told beforehand what he was going to see, in order that he might look for it. Otherwise his attention might have been diverted to immaterial happenings,

You may do much to prepare a town child for the great experience of a day in the country or at the sea-side.

If chance offers, in the road, or else carefully in the modelling trough, show how the water in a stream will be thrown first to one side and then the other of its channel. Show that there will be slack water on the inside of the curve and racing water on the outside. Show how the one bank will be under-cut, and how the stream will meander in consequence. Build up the idea that a valley may have been dug by the river which flows through it. Be content for a long time without measurement. By observation and description, with pencil, and brush, and modelling trough, and tongue—the child's tongue, build up the conception of the circulating waters, circulating from the cloud through the stream and back to the cloud, digging the winding channel and the valley, dissolving the soluble parts of the soil, feeding the plants through their roots, rising through their stems as sap, and evaporating from the leaves. Add the sunshine, and the green colouring of the vegetation. Add the animals feeding on the plants. Let it all be realised through the senses of sight, touch, smell, hearing, and even taste where that is not dangerous. Let there be the greatest freedom and the greatest joy in the work, but with deftness guide the flowing stream of questions so that in the end the answers, like the strokes of a painter's brush, have made a picture in the children's minds, which is the image of the world outside them.

We have now traversed four of our roads to geography—modelling, drawing, the cycle of life, and the circulation of water, the last two being the essentials of Nature Study. The fifth road should be taken at the same time as Nature Study, that is to say between the fifth and seventh birthdays. It consists of readings from what I have described as the Wonderbook. People who are now in middle life grew up with "Peter Parley." The children of to-day have Rudyard Kipling and his Indian jungle stories, and Seton Thomson and his tales of North American

animals. There should be no attempt laboriously to spell out these books. All their romance will evaporate if they are used to teach the painful art of reading. For the happiest children they are the joy of the winter evening round the mother's knee by the fireside. Their wonders can be seen in the hot coals and in the flickering flames. But with all the freedom and pursuit of pleasure which should characterise these readings, there should be the same steadiness of aim as in the other parts of our teaching.

Let there be no attempt at first to show the relations of distant things. Everything in the Wonderbook happens "once upon a time," and for the most part "in a distant land." We have to teach of things, before we can think of their relations to one another. There is no harm in using names provided that they are not explained. In other words, the names are themselves to be treated as ultimate facts. The African elephant is the elephant with large ears, not the elephant that comes from Africa, for we have not yet learned of Africa. The Asiatic elephant is the elephant with small ears, not the elephant that comes from Asia. If we would make good geographers of our children, let us keep all maps away from them at this stage, and if we can possibly do it, let us persuade intelligent parents to aid and abet us in this matter.

Children pick up names easily. They want no reasons for them. The normal child memorises with such avidity that the besetting danger of both parent and teacher is to make undue use of this faculty. Let it none the less have its due and proper employment. The Sahara Desert "in a distant land," with its camels and dust storms, can easily be anchored in its due and proper place on the globe a year or two later. But the association of the words Sahara and Desert may be permanently established beforehand. So we may talk of African negroes, and of the great Congo river, and its forests and pigmies; Moses may float on the Nile; the wolves may pursue our sledge in Siberia; but the names must on no account be located on the map. The reindeer may draw our sledge over the Polar snows—always provided

that the word Polar is an ultimate fact. For the present it has nothing to do with a pole, even "in a distant land." We may harpoon the whale amid the icebergs of the midnight ocean, and fight the walrus, and with Nansen we may hear the white bear outside our snow house sniffing our blood. When we have read of all of these things, then and not before, let us go to the Zoo. First let the imagination be exercised, and then let it be rewarded by verification.

IV

MEASUREMENT

THE child comes to school at the end of his fifth year, and remains at school, let us hope, until the end of his fourteenth year. We have nine short years in which to accomplish our task. It is only by the most careful economy of time and effort that we can hope to effect our end. As far as possible we must pass the successive milestones at the proper ages. In the case of children of inferior capacity, let us not delay until the twelfth year the work which should have been done in the tenth, but rather let us lighten the burden to be carried, so that the whole distance may be covered. What is the use of a house half built? Better a smaller house with the roof upon it. What sort of a scheme of things can a child have in its mind if it has learned of Europe in detail, but nothing of the Outer Continents? There is no need to sacrifice thoroughness in the effort to pass our milestones to time. Let each fact be thoroughly taught, but for the weaker child let us select our facts more sparingly.

In the first two years of our course, that is to say the sixth and the seventh of the child's age, we teach it to observe and to express. We use sand and clay, the pencil and the brush. We question the elusive steam from the kettle's spout, and we watch the meals of the little silkworms. For the child this should be a time of untrammelled growth. The childish eyes are busy realising the greater contrasts. Why trouble them with delicate shades of hue when they are revelling in the first brilliancy of the primary colours?

The teaching of these preliminary years should be wholly

oral. We want the first book on geography to come as a gift long desired. Do not use it for the purpose of giving mechanical facility in the mere deciphering of the printed page.

When the seventh birthday has arrived, at the beginning of the third year of our teaching, let us have a shock of fresh interest, but not yet from the book. Children soon weary of monotony, and not a little of the finer art of teaching consists in so harbouring your resources that you have always available some new mode of approach to your pupil's mind. You may tell, read, or question. You may ask for writing, drawing, painting, moulding, or gesticulation. You may use the blackboard, the model, or the lantern. The essential thing is not to squander your methods but to introduce them one at a time, and as far as practicable to make each introduction coincide with the opening of a term or of a year. When the child comes back from a holiday, let it not resume in the old way, but let it travel in a new carriage through a new landscape.

Therefore at the opening of the eighth year, we give the required shock of new interest by demanding measurement. Pace out the schoolroom and the playground. Note if they be longer than broad. Draw them in their rough proportions upon paper. Here and always avoid apparatus when you introduce a new idea. Let the whole attention be given to the idea itself, and only afterwards to incidental apparatus, lest the child's mind be diverted by irrelevant detail to the unessential, the mere means to the end. Therefore let the foot measure and the yard measure be substituted for the pace only when it has been realised by experiment that the length of paces is unequal.

Now draw the plan. Put the paces on to the paper with the length of the finger or the breadth of the thumb, thus avoiding apparatus. Even when you begin to use an instrument let it be some ordinary implement seized for the purpose. Measure out the playground with a walking-stick, and use the length of a penholder on the paper. Re-draw clearly your plan at each stage. Finally introduce the foot measure, and the yard measure. The children have often seen such measures

at home, but by approaching the use of them in the manner indicated you have separated the essential idea which they involve from the mere accidents of the rule or the tape.

Go on from the plan of a building or of the playground to the measurement of a brook—its breadth, its length, the radius of its curves. If a brook be not available do these measurements in the modelling trough. Draw from the model, first with free hand, and then with measurements. So make a plan of the stream, or in other words your first map. But do not at present use the word "map." You will be blunting, if you do, the impressions which you are reserving for a later stage. Thus far you are merely drawing from the model, and you are drawing to measurement.

Draw attention to the surroundings of the school—the streets of the immediate neighbourhood, the crossings, the bridge over the stream, the convergence of the roads to this side of the bridge, their divergence on the other side, the position of the village or town around the bridge, the market, and the coming of the farmers on market day. In every way possible, according to local circumstances, connect the movements of men with the stream and the valley. Connect the harbour with the mouth of the stream. Connect the market with the convergence of roads to the bridge. In London or in other great cities where the country is not very accessible, show the great river flowing seaward. If nothing else be accessible show the distinction between main streets and side streets, and get them drawn, perhaps even paced and drawn. If there be clay pits in the neighbourhood note the houses built of brick. Use now the pencil, now the brush, now the modelling clay. Connect with the processes of vegetation and water circulation wherever possible. In a word, according to the infinite varieties of local circumstance, make the child realise, depict, measure, and describe *where* it is.

V

THE SUN

We have begun our studies with the home. We have modelled, and painted, and drawn, and measured the objects around us, and we have watched their changes. But there is one element in every landscape which we have thus far omitted, the dome of the heavens and the moving sun which reigns over us all. Within sight of every parish is nearly half the known universe. Geography begins from two poles of our observation, from the home and from the heavens. The one is local and at our feet, the other is universal and essentially the same for every child that looks upward from this earth.

Let us study the sun itself, excluding all models and definitions. The sun rises in the morning, culminates at midday, and sets in the evening. While it is with us we have day. When it is away we have night. Let the children's arms follow the circuit from the rising to the setting. Then ask, where does the sun come from when it rises? Where does it go to when it sets? It requires but the smallest touch of suggestion for the children's arms to continue the movement from the setting to the rising, so completing the circle.

But if the sun goes beneath the earth, then there must be another side to the earth. So we reach the idea that the earth is a body hung in space. There are other such bodies. The sun itself is one, and the moon is another. Each of these is round, as we can see. Each appears to move like a ball that is thrown. May not the earth also be a round ball? Is not the horizon a circle?

Imagine that you are a fly walking on a ball, and elicit the

idea that you would have a round horizon. Let the gesticulating arms follow the horizon round. This is what we should expect, should we not, if the earth were a ball? Multiply proofs of the earth's roundness. Show a picture of the sea horizon and of ships hull-down below it. Let the children draw the horizon with ships, some more and some less down. Add the smoke of a steamer which is itself wholly below the horizon. On a clear day in the Fens it is sometimes possible to see a man "feet down" by looking with a telescope along the smooth surface of a straight canal.

Now return to the sun. It rises in the east, culminates in the south, and sets in the west. The north is the point opposite to the south. You find it by turning your back on the sun at noon. Your shadow points to the north. As the sun performs its daily journey your shadow moves round from west by north to east Ask for the trees and buildings in the neighbourhood which lie north, east, south, and west of the playground or the home.

Probably you will be questioned as to the direction of some place that lies between the cardinal points, and you will be led to explain north-east, south-east, south-west, and north-west. But do not be led further to tell of the remaining intermediate points. Let those wait for a later stage. It is enough for the moment that north-east lies between north and east. Do not yet explain that it lies half-way between.

In the summer time the sun rises in the north-east, not in the due east; in the winter time it rises in the south-east. Connect these directions with the times as given by the clock. In the spring and autumn the sun rises at 6 a.m., is in the south-east at 9, in the south at 12, in the south-west at 3, and sets in the west at 6 p.m. These directions are maintained in the summer time, because the sun rises in the north-east earlier than 6 a.m., and sets in the north-west later than 6 p.m. In the winter the rising is later than 6 in the south-east, and the setting earlier than 6 in the south-west.

Where is the zenith? The sun culminates to south of it. Your head points to it when you stand upright. If you put

pins into a ball each standing upright, each will point to its own zenith, and each to the centre of the ball. So you reach the idea that when you stand up your feet are directed towards the centre of the earth.

The habit of comparing the earth to a ball, or in other words of using a symbol in thought, is now growing, but none the less the mind should be kept fixed on the great natural objects themselves—the Sun, and the round Earth on which we stand.

Let us have gesticulation at every possible moment. If a child gesticulates the chances are that it understands. Gesticulation is an incitement to thinking in pictures, which is of the essence of almost all fruitful thought. Moreover there is pleasure in the mere movement, and you have knit together understanding and pleasure, and caused hunger for more such pleasure.

Now hark back. We have learned—have we not?—that a plant growing in the daylight has green leaves, and that without green leaves it cannot make appreciable growth, unless it be a fungus living on rotting matter. Wood is cut from the trunk and branches of green trees. It has been made from air, water, and soil by the power of the sun's light and heat. When you burn wood you obtain again a little of this light and heat. So we reach the idea that the sun is the original source even of the light and heat which we obtain artificially. Show some charcoal beside a piece of coal. Coal consists of buried timber, charred although not burnt, the forests of olden times recovered from under the rocks.

All flesh is grass. You feed on vegetables and on the flesh of animals, but the animals in their turn have fed on vegetables. So your life, and all life, is dependent on the sun's light and heat. Even the light that comes from the moon is reflected from the sun. But the stars are distant suns.

Let us not be in the least afraid of talking for months together in terms of the apparent movement of the sun. All humanity passed through its infancy in the belief that it is

the sun that moves. Let us appeal, moreover, to the imagination with experiences on the full scale of nature. The freak impressions that are produced on the childish imagination by the use of symbols and models are full of endless reproof for the teacher. On this subject there is many a sane aphorism in Rousseau's "Emile." The third book of that work is well worth reading for its practical hints on the matters dealt with in this chapter.

VI

THE GLOBE

At last we have arrived. If we have slowly and carefully traversed the stages described thus far, we may now without hesitation begin to teach geography. Let us take a simple ball into our hands. Let it be held familiarly in the hands, not fixed obliquely upon a stand, for a stand is no part of the picture which it is desired to imprint upon the memory. Above all let it not be an orange. The true shape of the earth is much nearer to a ball than it is to an orange. The essential truth is that the earth is round. Not for several years need the child be troubled with the almost imperceptible polar flattening. Let the ball be a black or blue wooden ball, with nothing whatever represented upon it. It is the symbol of the round earth. The children have learned by observation that the earth is round.

Remind them of the measured plans which they made of the schoolroom and playground. Those drawings were small, but they were four-cornered like the schoolroom, and represented its length and breadth. So this ball, though it is small—very, very small as compared with the earth—is yet round like the earth.

Now substitute another black or blue ball, precisely similar to the first, except that the continents have been painted upon it in white or brown. Do not let us have white coastlines dividing black land from black sea ; the continents are things and not merely outlines. No equator should be marked, and no poles, and no names : our first terrestrial globe should be just an image of the earth as seen from the moon. There are

features on the moon's face when seen from the earth, and so must there be on the earth's face when seen from the moon Some may prefer to have the land in white and the sea in black, others will choose blue for the sea and brown for the land. There is no reason, except the cost, why each child should not have its own little replica of the globe.

Now ask the question, Which (not Where) is Africa ? The children will turn the ball so that they can lay their hands upon Africa. They know it from its shape, precisely as they would know the features of a familiar face. The face of Africa is not likely to change in our time : it is worth gazing upon and knowing. So with Asia, and Europe, and the Americas, and Australia.

Let us model Africa from the globe in the modelling trough or on the sea-shore, and pour in sea around it. Let the children compare the model with the globe. So the black or blue of our globe will become in imagination veritable water, or sea, and the white or brown will be clay or dry land. Let the children construct their own first maps by drawing them with a free hand from the globe and from the model, but show them no printed map. Keep their minds concentrated as long as you can on the surface of your globe. Let their maps be merely pictures drawn from the globe, and interpreted by the clay and water in the trough.

Teach in this fashion the main facts of geography—the distribution of land and water. Show that there is a greater land of which Africa is but a part. That greater land is surrounded by water. It is an island. Teach no formal definition, but elicit the patent fact that an island is a piece of land surrounded by water. There are many islands on the surface of the globe, but this is the largest. There was a time when men did not know the other large islands on the globe. Then they spoke of this great island as The World. But in later times they discovered another great island which they called America. Therefore the World which they had previously known, came to be called the Old World, and America was called the New World.

Australia is yet another very large island. We often call these great islands Continents. But there is only one ocean round all the Continents. Note Behring Strait at the point where the Old and New Worlds approach nearest to one another. The word "strait" means "narrow." Behring was the name of the sea-captain who first sailed through that particular strait.

Note how North and South America are tied together by a neck of land which is called an isthmus. It is the Isthmus of Panama. Panama is the name of a town placed upon the isthmus. Do not in the first instance trouble the children with the existence of Central America.

Turn to the Isthmus of Suez, so named from the town of Suez, and see how Africa, already familiar to your pupils, is connected with the remainder of the Old World. How vast is that remainder! Let your finger touch one end of it which is called Europe. Let your hand sweep over the rest of it and say that that is Asia. Point out the Mediterranean and Red Seas—the Red Sea is not really red. The people of old time who gave it that name probably found upon it some floating field of red sea-weed.

Mark the Strait of Gibraltar at the entry to the Mediterranean Sea. Note the peninsula of Spain. Set the children searching for other peninsulas, until they rise to the idea that Africa is a peninsula, that Europe and Asia constitute another peninsula, and that North and South America are each peninsulas. You have given no definitions, either of island, or strait, or isthmus, or peninsula. You have merely drawn attention on the globe to the chief islands, straits, isthmuses, and peninsulas. Each time that children, taught in this way, are asked what is an island or a peninsula, their minds will go back to the globe, and they will describe what they have seen there, instead of repeating a barren form of words.

Point out and name the parts of the ocean—Pacific, Atlantic, and Indian. Show the island of Antarctica—remember that we now know that there is no Antarctic Ocean Show the Arctic Sea, bounded by the coasts of Europe, Asia, and North

America. Point out the two British Islands, Great Britain and Ireland, and elicit the statement that England and Scotland are peninsulas.

When the year has progressed, and the facts are known, you may wish, for the sake of growing accuracy, to have the names written whose sound has become familiar upon the globe—Europe, Asia, Africa, and the like. Have them written in the copybook or on the slate, but not upon the globe, or upon the maps drawn from the globe, lest they blur the simple effects of the coastal forms. Those forms should be recognised precisely as the features of the human face are recognised, and with the same ease and habit. They should be associated with their spoken names and not directly with their written names. One of the characteristics of a half-taught age is that many of our people know printed names which they have never heard pronounced, and they get into the way of thinking of both things and sounds by their printed symbols, instead of seeing the things and hearing the sounds with the eye and ear of memory. We need to preserve the directness and vividness of thought which characterise illiterate people, and also the makers of real literature. Originality and force are lost by those who are merely learned in what others have written.

Now comes the question, Where is our home? "There, in that island," will be the reply, and they will turn their globes and touch it. Let us proceed to transfer from the heavens to the artificial globe the directions of north and south. Mark the North Pole and the South Pole on your globe. For a moment you must be dogmatic. Place a finger on each Pole and hold the globe so, but do not yet make it rotate. These two points are called the North and South Poles—that is enough for the moment. If questions are asked, reply by saying that the North Pole is in the centre of the North Polar or Arctic Sea, and that the South Pole is in the centre of the Antarctic or South Polar Land. The opposition of Northern Sea and Southern Land will divert the minds from the track you do not yet wish to pursue.

Place the globe so held in the presence of a lamp. Stick a small pin into the British Isles. Tilt the earth's axis, so that the lamp-sun may be in the south at midday in Britain. Shrink each child to the size of a fly, and set him upon the globe where is the pin. Turn his back on the midday sun. He will be looking towards the North Pole, will he not? Draw a chalk line on the globe from Britain northward along the pin-shadow.

Return to full stature in the schoolroom. Stand in the sunshine with your back to the south, and your shadow to the north. Hold the globe so that Britain is at its uppermost point, and so that the chalk line and your shadow agree in direction. Then where is the North Pole in reality? All hands will gesticulate. The shadows, the chalk line, and the arms will all be in the same direction. Where then are east, and west, and south, on your globe? The transfer will be effected without the least difficulty.

Having now lifted the imagination to the reality, take care to keep the minds concentrated on the real great globe. Measure the success of your teaching by the amount of gesticulation to which the children will naturally resort when their minds are visualising. America can be seen upon the wooden globe, but when I ask the question, "Where is America?" I am not content until I receive the answer from prompt and eager arms, "There, through that wall, and over the land, and across the Atlantic Ocean, until you come to the land again." And then, because the lesson of the globe will have been taken to heart, it will dawn on them as a second thought, that after all America is not straight through that wall, but allowing for the curvature of the earth, it is somewhat downward through the floor at the foot of the wall, and the arms will gesticulate to show the space movement of the minds.

Thus we learn things, shapes, and directions. The use of names as written labels is wholly avoided. Above all we lead the imagination to think on the big scale, the world scale, which is essential to powerful thinking in later life.

Now pick up the threads which you have left hanging from

the former stages of your teaching. Transfer the romance of the Wonderbook to the globe, and to the directions as pointed through the walls and the floor of your schoolroom. Group each description round some tale of action—the crossing of the Sahara on camel-back, the sledge and the chasing wolves in the Siberian Forest, or perhaps the Arctic Sea and the harpooning of the whale. As you name each region put the finger on the right spot of the globe, turning it over familiarly as you would turn the leaves of some well-known and well-thumbed book. Keep the globe before you as the narrative develops.

Get the children to point out on the globe possible voyages by ship—the voyage from Europe round Africa to Asia, or from Europe to Australia round Africa and home round South America, or through the Isthmus of Panama by canal, or through the Isthmus of Suez. Let them learn that the voyage over the North Pole is blocked by floating ice.

Then begin to tell something of the peoples who would be met along the coasts at the ports touched—the black people of Africa, the yellow people of Eastern Asia, and the red people of America. In each case make the description centre round action, and make the children visualise that action with their fingers on the globe.

Tell, for instance, of the Sahara Desert spreading across Northern Africa, and of the camels which cross that desert in caravans from the shore of the Mediterranean Sea to the Sudan, the land of the negroes. Picture the sandstorms in the wind. Tell how the men wrap themselves in long flowing robes, and veil their faces to keep out the sand, and how at other times they wind turbans round their heads for protection from the intense heat of the sun. Picture the journey day after day without water. Tell of the stomach of the camel which can carry water. Link up the desert with your earlier teaching in regard to the need of water for vegetable growth. Show on the wall a picture of the desert with camels, but do not yet make use of the lantern, and still less of the cinematograph. Husband your resources. Let the comparative come before the superlative.

In the next lesson transfer the mind to the tropical forest along the Congo River of Central Africa, or along the Amazon River of South America, or in the Malay Islands. Picture the downpour of the tropical rain and the great thunderstorms. Show how heat and moisture together give a dense vegetation. Picture the roof of tree foliage high above the ground, with the dark, straight tree trunks below, the hanging creepers, the dank undergrowth, and the creeping animals in the depths. Imagine the bright sunshine on the leafy surface above, and the flowers, the insects, the birds of that upper world. Describe the great river, the Congo or the Amazon, with its crocodiles, and its two walls of vegetation, one on either hand, which are the edges of the forest rising like cliffs from the water. Finally insert the wattled huts of the villages in small clearings along the river bank, and the naked, cannibal savages with their war canoes. Tell of Stanley's journey down a thousand miles of the unknown Congo, and of the Spaniard Orellana's voyage of discovery down the Amazon.

Put up a picture on the wall to show such a forest, place it beside your desert picture; and let it stay up for a time. Let your gallery grow as you teach. The children will take a collector's delight in each new picture, and will compare it with the old. But you will blunt curiosity if you display your entire wealth when the term begins.

Draw a blue line, if you like, upon the globe to represent the Congo or the Amazon, and rub on dust of green chalk for the forests around. At the same time dig a valley into the clay of your model and pour water down it from a tea-kettle. In like manner indicate the Sahara with dust of brown chalk.

Carry your pupils next to the Arctic regions; to the reindeer and the polar bear, the icebergs, and the excitement of harpooning the whale, which plunges down into the abysses. Take them to the Antarctic Tableland, two miles high, and tell them the story of Scott and his companions. So onward through a dozen or a score of other scenes, as time may permit.

From the Wonderbook let us step to history. Our ancestors knew only a small part of the globe. Trace the

historic voyages down the West Coast of Africa, each of them to a turning point a little more south than its predecessor. At last the southern cape is attained, and it is called the Cape of Good Hope, for round it the discoverers hoped to reach the Indies, the land of spice which is made into mincemeat and Christmas plum-pudding. Tell the story of Columbus crossing the Atlantic, and how he held his almost mutinous crew by not letting them know how far out into the West he was taking them, towards the setting of the sun in the unknown sea.

If time permit, we may at this stage go even one pace further. We may raise mountains on the model of Europe. We may tell of their cold summits. We may picture the rivers rising in the high snows and flowing downward over the plains to the sea. We may make our first attempts at hill shading on our own map drawn from our own relief model. In the margins, but not on the face of the map, we may write the names—Alps, Rhine, Danube, and so forth.

Only when we have made many models and drawn many maps from our globe should we present a printed map. It should be an outline map, without names or network of latitudes and longitudes. Avoid by every wise omission the necessity of daunting by the reply, "You will understand that some day." The printed map should be regarded with admiration as something familiar and understandable, for have we not made maps ourselves? But it is something superior to our rough pencillings; it is the work of a master. The sight of it having been deferred until this stage, it will act as an ideal towards which the children must strive, instead of suggesting a mere copy to be repeated line by line. I am aware, of course, that there will be a difficulty with the intelligent parent, who will have anticipated you, and will probably have shown some crude map gaudily coloured according to countries, and defaced with names. We cannot effect any improvement of teaching suddenly, because every parent thinks of school as school was in his own childhood. You will only reap the full harvest of your teaching after twenty

years, when the children of your pupils come to you. It takes some of the patience of statesmanship to make an educational reformer.

Photographs of people, animals, and scenery may now be shown, so that the first pictures—one for each region—may be generalised a little, but beware of blurring your teaching by too varied an appeal. Above all, let there be the severest moderation in regard to the cinematograph. Be sure that the child has first made an effort to picture what he is going to see, and when he has seen it, let him put it in imagination in its place on the globe. No greater harm can be done to the constructive imagination than by presenting new objects for mere apprehension, without the effort to picture them beforehand from description, and to place them afterwards in their perspective in the universe.

There is great and insidious danger in the modern facilities for pictorial teaching and amusement. The letterless peasant of former generations knew where he was when he ploughed his field beneath the blue heavens and heard the Bible read in Church. Too many of the pupils of the Act of 1870 cannot see the forest of this world because of the vast multiplicity of the trees in their weekly and daily "tit-bits" It is to be feared that the confusion will be worse confounded by the present youthful debauchery in the penny picture-theatre.

VII

THE MOVING GLOBE

We have now come to the point in our teaching which demands that we should no longer speak as though the earth were fixed and the sun were moving. Hitherto we have thought of the earth as a globe hung in space, but like the Greeks of old we have thought of it as set in the midst of the universe and of the heavens as turning round it. In common talk every one still speaks of the sun as rising and setting.

A good way to open the subject is to say suddenly one day, "Do you know that the earth is moving and that the sun is not moving? It is true that the sun rises and sets, but for all that it is not moving." Then ask whether any one has ever looked through the windows of a standing train and thought that it was moving, when in fact it was the train alongside which moved in the opposite direction. Walk along a road past a gate or a house. The gate is in front of you as you come up to it, and it is behind you as you go away from it. But if you had stood still, and the gate or the house had moved, the effect would have been the same. We are moving with the surface of the earth. In the morning the sun is in front of us to the east. We come up beside it at midday, and at night we have left it behind us to the west.

Put your fingers on the North and South Poles and make the globe rotate on its axis. Be careful not to speak of this motion as revolution, which is the word for the earth's annual movement round the sun. The Poles are not marked on your globe and should not be marked. They are already well known

to the children by name and by place, and have now merely to be identified with the ends of the axis of rotation. Be careful from the first to rotate the globe correctly, Asia going round in front of Europe.

Now add the fact that the earth turns in the presence of the sun. Hold your globe at some distance from a lamp. Do not hold it vertically, but make no sort of reference to the oblique position of the axis. One side will be illumined and the other will be in the dark. As a result of rotation any given spot comes into the day, passes through the day, and reaches the night. Point out the fact that the earth turns from west to east, and as can be seen by imagining yourself a fly on its surface in the presence of the lamp, the result is to make the sun appear to move in the contrary direction.

Having slowly and carefully reached this point in the argument, seek to connect the rising of the sun, as seen by the fly on your small globe, with the rising as actually seen by your pupils on the eastern horizon. Hold the globe by the Poles, with a vertical pin in the British Isles, and so adjust the ball that the pin points to the zenith in the meridian of the midday sun. Make the children show the direction of north in the room, and then show that that is the very direction of a line drawn from the pin to your finger which is resting on the North Pole of the globe Thus we bind into one picture the idea of the North Pole on the globe, the orientation of the room, and the movement of the sun as seen from the room. It requires but one step more and you have the child thinking of himself as equivalent to the pin on the earth's surface, and as moving to meet the sun when it rises to the midday position. Your effort is to get rid of the little symbolic globe from the child's imagination, and to leave the impression of the great turning earth itself.

I shall never forget the moment when I first realised—I knew it long before, but then I realised—that it is the earth that is turning and not the sun moving. I was at sea. We were anchored off the west coast of Morocco. There was a dead calm and a cloudless sky. The horizon was hard, with

no trace of a mist, for we were in the desert air of Africa. The sun went down as a flaming golden ball, and I felt the horizon lift against the sun's face. The sensation was irresistible. All models and apparatus vanished from my mind, and all merely mental apprehension of the truth. I was myself part of the great surface which I saw lifting against the sun's face.

The temptation to describe at this point the solar system should be resisted. Keep to the main argument of your teaching, and take one step at once. Your aim is to get as quickly as possible to geography. You have risen to the sun for a time only because you wanted the real earth, and not a little wooden ball, to float in the minds of your children. The mathematical ideas of the solar system are not due at this stage of your teaching. Moreover you should never demand strained attention for long at a time. After a special effort to understand, drop back for the sake of relaxation on to the descriptive plane.

We are ready now to enter Bookland. The weaning of the child from the teacher must begin. It must learn to browse for itself. The ninth year is at hand. If we succeed in our training during the six later years of school, our pupils will have learned the art of reading—of reading the meaning as well as the print—and will be free of Bookland. They will have graduated in the great democratic university of modern days, and will have attained to the power of selection and rejection, which is the deeper aim of all our outlook teaching.

VIII

THE BOOK

THREE or four years have now passed, and our five-year-old is an eight-year-old, or perhaps even a nine-year-old. Reading is no longer with tears. Books, provided that they be really interesting, are at this age read with avidity by no small percentage of children. Our first book on geography must be no textbook. It must bear no apparatus of notes and memoria technica to de-humanise it. Let the author speak simply to his young reader, and let the teacher comment as he will on the author. But let not the author attempt to play the part both of author and teacher. No more devilish means of sterilising young minds was ever invented than the old-fashioned text book of geography.

It may be true that teachers have not the time to obtain for themselves the information needed to supply the place of notes to a text. One object of this book is to "brief" the teacher who uses in his classes the series of little volumes to which this is an introduction. In my opinion a similar book should be issued by way of commentary in connection with all books for children. The function of the author is to put all he knows into framing a human message, artistically simple in form and yet full of meaning. The function of the teacher is to show the child how to read. There is an art of reading just as there is of writing. We have to teach how much meaning there may be in a few simple sentences. When the meaning has been apprehended, we must learn to be critical. When we have woven the author's message into the warp and woof of our minds, we must learn to work into it other kindred

information which may come to us. In other words the teacher should show how to be the master of books and not their slave.

If you have one kind of book as a school-book and another kind for those who have left school, then the school will not teach how to read after school. We should take for school lessons attractive books with an ordinary appearance, written no doubt to appeal to the simple experiences of children, but written in ordinary literary form. The teacher should be a comrade in our reading, holding us back when we would hurry and skim, and carrying us forward when we are for the moment puzzled and inclined to be weary. It is easy to apply the brake by asking a question. It is fascinating to give the sympathetic lift over the difficulty by adding illustration. Great teachers of the Latin and Greek Classics have known how to do this; hence the long vogue of those time-honoured implements of education.

I have written the six little books of this series in the attempt to realise my ideal of what a child's book on geography and history should be. No one knows better than I do that I have fallen short of my ideal. But at least I have accomplished this. I have written coherently, and have inserted no lists of names to encourage the too frequent British habit of barking and grunting in single words instead of speaking in sentences. My high ambition, and I admit its height, has been to supply for the masses of our children that kind of writing which in another sphere is known by the name of humane letters.

Probably my success is only partial, but none the less I believe that, if we have art enough for the purpose, we can impart to many children by the age of fourteen the desire to see things in perspective, and the desire to express their experience in terse, strong, musical sentences. The English value personal experience. The French love their mother tongue. Why should not our modern popular education seek to combine both these excellences?

It is natural, no doubt, that the rebound from the excessive

use of books in education, should with some take the form of excluding them almost wholly from our teaching. I believe that this is a mistake. Oral teaching has its immense advantages, but on the other hand it has great dangers. Apart altogether from the supreme consideration that we should send our pupils out into the world anxious and able to learn for themselves, there are practical reasons for centring our lessons round a book. The printed word keeps us to a main line of argument, the product of long and skilled thought. It constitutes a standard of diction, and sets an example of terseness. Above all it puts the teacher into the place of a fellow learner leading his class, rather than of a preacher preaching dogma. The better the book the greater will be the scope and incitement both for oral and for practical teaching.

The actual stock of facts with which boys and girls of fourteen leave school cannot, of course, be great. All the more reason why our aim with these, the less fortunate children of our race, should be to equip them early with mental independence and modesty. The educated and not merely instructed mind knows where it is. The characteristic of the really educated man is that he does not lose his poise. He is master of his conversation, which does not run away with him. He is master of what he hears and reads, and not its slave. He does not lose himself in details, nor on the other hand does he soar on wordy wings beyond the support of details. The facts in his memory, whether they be many or few, are correlated, and form a scheme into which each new fact is fitted, just as an army assimilates a recruit. Yet his scheme is not merely material and mechanical, for there is a sense of values in the cultivated mind, or in other words it has an atmosphere

It is the aim of secondary education and of the university to train such poise of mind. But what has poise to do with elementary education? Surely much. For every man or woman who goes to a secondary school there are, unfortunately, fifty whose schooling must end when they go to work at fourteen. Yet these fifty are pilgrims in a scientific world

and citizens in a democratic State. It may not be theirs to lead, but they have to judge and to accept or refuse the lead which is offered them by others. They must know where they are. They need the quality of poise. They will have the leaders they deserve and can appreciate. To teach them only to read, and write, and sum, and to earn a living is to expose them to misleading. Whatever be the limits of time and money, you cannot thus abandon them, equipped with adult weapons, but with untrained judgments. It is your duty to take them while at school to Pisgah, whence they may see over the Promised Land of sane and broad thought, so that when they leave school they may enter upon it and enjoy it.

IX

"OUR OWN ISLANDS"

THE remainder of this volume will take the form of a running commentary on the successive chapters of my "Elementary Studies." It will constitute a "brief" for oral teaching in connection with them. I would suggest that teachers who think it worth while should have the book "interleaved" so that they may enrich or correct my notes, and thus give to their teaching when it comes to be repeated their own personal and original touch. To facilitate the task of preparation for class work, I have printed in italics each piece of apparatus when first mentioned in regard to each lesson. Thus the italicised words make up a list of the apparatus required for the lesson in hand.

On the first day of the new school year, when the class reassembles, we produce our first book on geography. This is the great change which is to mark the new stage of our teaching. The aim of "Our Own Islands" is to lead the children to wander at ease in imagination over the British Isles. Thus we shall be primarily concerned with geography. The historical references in "Our Own Islands" are incidental. They are introduced to give a dramatic interest, and also to initiate the habit of visualising the movements of men upon the relief map. No attempt should yet be made to teach dates. Perspective in regard to these will come with the next book. Perspective in regard to space must first be acquired.

The object of the first three chapters of "Our Own Islands" is to teach the position of the British Isles and

the effects of their insularity. Bring before the class the apparatus you are going to use First there will be the *globe without names*, with which the children are already familiar With your finger run over the features already taught — Europe, the Mediterranean, Africa, Asia, the Atlantic, North America, South America, the Indian and Pacific Oceans, Australia, the New World, the Old World, and the British Isles. Ask for the positions of the North Pole, the South Pole, and the Equator—they are of course not marked upon the globe. **Chapter i.**

Then introduce *a map of Western Europe, depicted upon its proper curved surface,* and drawn to a larger scale than the globe you have just shown. Such convex maps were proposed for use in teaching by the great French geographer Élisée Reclus

Unfortunately a map of the precise description which is here desired is not, so far as I know, to be had in the market. It may, however, be constructed without much difficulty with the ribs of an old umbrella. They should be bent to the desired curvature and fastened together by circles of wire. Fit over the frame so made a dome of black cloth, made by cutting gores out of the stuff and neatly stitching together the edges. The lands may then be painted with white paint. As there should be no network of latitudes and longitudes, and yet a net is needed as a guide when drawing the coasts, latitudes and longitudes may be placed upon the cloth temporarily by chalking a piece of string and rubbing it along the desired lines. When the map has been drawn the chalk on the black sea can be brushed away. The stick of the umbrella should, of course, be removed, as the British Isles and not the Pole will be at the top of the dome.

The children will at once see the relation of the curved map to the whole globe, and it will arouse great interest. They will delightedly recognise Europe and the Mediterranean on the larger scale. Their arms will indicate the size of the sphere of which the map is a part. There should be no names upon it, and the land and the sea should be in white and

black, or in brown and blue, so as to agree with the globe in use beside it.

Call attention to the direction of north by drawing a line upon the globe from Britain towards the Pole, and then reproducing that line upon the curved map. East, west, and south should also be identified. Thus the children's minds will be shifted easily from the globe to the curved map.

Now read the first chapter of "Our Own Islands," following the facts upon the curved map or upon the globe, as may be. Expand the story of Trafalgar a little. In the days of their great-grandfathers France at war with Britain; the Emperor Napoleon at Boulogne with his army; the French fleet at Cadiz on the Spanish coast; Admiral Nelson with the British fleet outside Cadiz; British ships in the Channel, ready to attack Napoleon's transports; therefore necessary to bring the French fleet round from Cadiz; it comes out from Cadiz and is attacked and defeated by Nelson off Cape Trafalgar; therefore Napoleon cannot invade England. Trafalgar is a long way off, but it did not matter where the French fleet was defeated, provided only that it was defeated. So the freedom of Britain was saved.

As a matter of historical accuracy it is true that Napoleon anticipated the result of Trafalgar, and marched away from Boulogne shortly before his fleet was defeated. This point, however, need not be referred to. For children it would only blur the effect, without adding to the substantial truth.

Gather together the threads. The impressions left should be (1) the position of Britain visualised on the surface of the globe, (2) the Narrow Seas between the island and the Continent, and (3) the maintenance of our freedom against over-seas invasion by the fleet at Trafalgar. Add, if you like, the picture of our food coming to us over the seas.

Read the text of Chapter II. with the *globe* and the *curved map*. Make the children visualise the story of the Armada

on the map. Expand that story a little—Elizabeth, Queen of England; Philip, King of Spain; Sir Francis Drake playing bowls on the Hoe at Plymouth; news brought to him that the Armada is in sight; his continuance of the game in order to inspire coolness and confidence; small handy British ships against the large cumbersome Spanish vessels; the running fight up the Channel; the Spanish fleet taking refuge at Calais, British ships on fire sent sailing into the harbour, flight of the Armada through the North Sea, and round the British Isles; destruction of the vessels by storm, a few only getting back to Spain. **Chapter ii.**

Show a volume of *Shakespeare's Plays*. Identify the quotations at the beginning of the chapter, and on page 8. Both of them are from Richard II., act II., scene 1. Show the portrait of the poet. Show that the book consists of a series of theatre plays. In other words make the children feel that "Shakespeare" means a book, written by a real man and not merely a line of poetry to be learned by heart.

Do not attempt to give any date—at this stage it would have no meaning.

Still retain the *curved map*, but introduce also a *flat map of the British Isles*, without lines of latitude and longitude and without names. The fact of some distortion being inevitable in the flattening process should be demonstrated. If the curved map were pressed flat it would crack radially, like the skin of half an orange. **Chapter iii.**

Let the children insert on the paper map, in the positions of London, Edinburgh and Dublin, the usual rings to signify towns. These round rings probably originated in the circle of the town walls. For the sake of accuracy the class may spell out the town names in the margin, but do not deface the map with them, for it should be thought of as a picture.

In connection with Fig. 11 visualise yourself as standing on the curved map upon Snowdon, and looking out to the sun setting over Ireland. Think of the Irish horizon as rising

in front of the sun. Thus chain up your teaching with what was taught in the previous year.

Chapter iv.

The aim of this and the next two chapters is to introduce the idea of measurement, in other words, of direction and distance, which are of course the bases of accurate perspective in geography. The new apparatus required in the present chapter, apart from *tracing paper*, is a *mariner's compass*.

When the creased stars have been prepared, and marked in a conspicuous manner with the letter N for north, one of them may be placed on the floor, and the compass may be put upon the centre of it. The paper should then be oriented, so that its north coincides with that of the needle. The directions of the room may then be ascertained, and their coincidence with the directions as ascertained by the rising, southing, and setting of the sun should be made evident.

Now take the *curved map* and lay it upon the floor, with the compass upon the top, and orient it. Get the children to point with outstretched arms in the direction of places selected on the map. If the school is in London, the directions may be those of Ireland, Scotland, France, and Trafalgar. Or ask the children what they would come to if they went in a south direction. They point that way, and say—first the wall of the room, then (perhaps) the playground, then such and such a street, then such and such a village, then the English Channel, then France, then the Mediterranean, then Africa. In this way the sense of direction will be tied up, not merely with the map, but also with realities within the horizon and beyond it.

The children are quite likely to ask the names of the sixteen intermediate points of the compass, making up the thirty-two of the sailor. It may therefore be convenient to have a note of them. Let us " box " the compass—N., N. by E., NNE., NE. by N., NE., NE. by E , ENE., E. by N., E., and so on.

Begin by tying up the ideas in this chapter with the work done in the previous year. With the *foot measure*, draw a plan of the room. For the sake of completeness orient that plan, and mark the directions upon it. **Chapter v.** What is the length of the room on the plan, and in reality? So get to the idea of scale, and then turn to the chapter.

It would be well to have a good *photograph* of the river front of the Houses of Parliament, for the Battle of Trafalgar and the Houses of Parliament stand for two vitally important sides of our national existence. For the present, however, it will be enough to secure the association of the building with its name. Beware of getting too far from the main argument of the chapter. Measure the length of the building on the photograph, and find out its scale.

In connection with this chapter a large *blank map* of the British Isles may be laid on the floor and oriented with the *compass*. After the three sides of Great Britain have been measured on the map, the children **Chapter vi.** should point in the directions of Dover, Cape Wrath, and the Land's End. Then their arms should travel from the direction of Dover to the direction of Cape Wrath They will realise, with a pleased stretch of their imaginations, that if their arms were sufficiently long their fingers would travel through so many hundred miles, the distances in other words which they have ascertained by measuring with the help of the scale on the map. It is a great point to keep their minds bent as much as possible to the large realities, so that they do not picture merely maps, but visualise the greater realities which maps portray.

The object of this chapter is to make the child begin to visualise not merely geographical shapes, but also the movements of physical geography.

It would be well to show some *limpet* shells, and to explain the phrase, "sticking like a limpet."

Chapter vii. A letter may be addressed by the class to Messrs. E. W. Carter, of Gainsborough, Lincolnshire, enclosing some postage stamps and asking that they may have sent to them some *picture postcards* showing the *Aegir* coming up the Trent. The children will never forget the meaning of a tidal river after that little bit of business on their own account.

If a *modelling trough* be available, it is quite possible to construct a dock in the clay. Fill up with *water*. Then insert a *small board* in the place of the dock gate. *Ladle* away the water that is outside the gate. A *small boat* will remain floating within the dock. This is quite worth doing, because at a later stage the contrast of ports with and without tides, and of canals with and without locks becomes very significant, for instance the contrast between the ports of London and Marseilles, and between the Panama Canal and the Suez Canal.

This chapter should of course be read afresh when a visit to the seaside is contemplated.

The object of this and the next three chapters is to give a first lesson in regional geography. We shall dissect the chosen region into its essential geographical components.

Chapter viii. In this chapter we introduce the idea of land relief. Before leaving the subject it is essential to convey the fact that even the most tumbled landscape is in bas-relief and not in high-relief. To impress this it is well every now and then to convert into miles the vertical scales which are commonly expressed in feet. Even for a mature mind it is very useful occasionally to apply this correction, and to think of the Alps as 90 miles broad where narrowest, and 3 miles high where highest, instead of comparing 90 miles with 15,600 feet.

For those who do not live in the districts where they grow, it might be well to show specimens of *hop* and *heather*. They

should be kept in a little *herbarium* between sheets of *blotting paper*. Hops make a pretty climbing growth outside the school, and in the autumn sprigs of heather may often be bought in the shops. It might be well also to have a small sample of *peat*, and to explain that it is used instead of coal.

For the purpose of making the measurements upon the map which are asked for in this chapter, a pair of *dividers* may be resorted to. They should not be employed earlier than this chapter, for the child should be induced in every way possible to make use of the simplest methods. Only afterwards should it learn that accurate instruments are available. Thus its mind is kept fixed on the essential ideas, and is not diverted by novelty of apparatus. Moreover handiness and resourcefulness of work are thus encouraged.

Two models should be prepared to accompany this and the next two chapters. They may be made by a senior class as described on p. 75. The one should be of the relief of the north of England with the vertical scale only slightly exaggerated; the other should have the vertical scale exaggerated ten times. Let the second model be painted brown and green to correspond with Plate I., facing p. 49. Place the second named model in a *trough*, and pour *water* in until it rises first to the coast line, and then to the level indicated by the lower edge of the brown paint. Plate I. will thus be made graphic, and the intuitive idea that the green signifies vegetation will be killed before it takes root. **Chapter IX.**

When the model is dry a *funnel* may be used with a fine point to it, and a stream of water may be directed into the heads of the successive dales. A little current will run down each tributary into the Ouse, and so into the Humber. The right and the left banks of a river should be asked for, the child being made to think of turning its back to the source in the moors, and its face to the mouth in the Humber. The idea of the Pennine Divide can be made clear by sending

streams alternately into the Mersey and the Ouse. The model may be constructed to show a section along its northern edge to compare with the upper section on p. 52.

Before the study of this chapter is completed the child should give descriptions in his own words of the flow of the Ouse and its tributaries from the moors to the Humber—with Plate I before him and no longer the model.

The other model, with the very low relief, should be left white, but the rivers should be shown in faint blue. The flatness of the relief may be demonstrated with a *penny* alongside to save words.

The *two models* may be utilised again in this lesson, especially for the purpose of showing the Aire Gap, and to aid in the visualisation of stream and road and railway threading a dale side by side. But models should gradually be abandoned, and the map on Plate I. should become the mainstay. Our object is first to make the map speak with the help of the model, and then to get into the habit of reading the map without such aid.

Chapter x.

The idea of the severe climate on the upper ground should be emphasised upon the model, so that the cloud and snow may be visualised as spreading over wide areas of upland. The clouds should be imagined as roofing the narrow dales.

A *model* may be prepared similar to the second named model in Chapter IX., and may be painted so as to show in plan and in section the arrangement of the limestone, grit, and coal in the north of England. The reason of the separation of the coalfields of the West Riding and Lancashire, owing to the upward arching of the rocks, will thus be made evident, and the children should transfer this reason in thought to the map shown in Fig. 37, p. 65. The model should also show the newer deposits of sandstone resting on the top of the coal measures, and will

Chapter xi.

thus explain the reason of the great depth of the colliery shafts which are being sunk far away from the Pennine Moors—even as far as within the boundary of Lincolnshire.

There should be some *raw cotton* available, and also some *yarn* and a piece of *cotton cloth*. The spinning of the yarn, and the weaving of the warp and the woof into fabric by means of a shuttle should be simply explained, as also the part played by coal in driving the machinery. A piece of *ironstone* should be shown, and the process of smelting with coal very simply explained. This, of course, will be more necessary in districts which are not industrial. The red in almost all ruddy rocks is due to iron.

The blowing of the east and west winds should be visualised with the help of the relief model, the children being set to blow with their mouths from its right or left edges.

By way of concluding this stage of the instruction it may be well to ask the children to describe in their own words such a region as Yorkshire. It is essential that the description should not be conveyed in the teacher's questions, the child replying monosyllabically. The pupils should be incited themselves to take the lead, and to express themselves coherently. They have now a vocabulary appropriate for the purpose, and should be able to use correctly such terms as river source, tributary, water parting, river basin, right bank, left bank, estuary, coalfield, lowland soil, cold uplands, dense population, tillage, manufactures, shipping, and roads and railway threading the dales. Let them talk with the map before them, playing upon it in imagination, as they would play at rivers and hills on a seashore.

In connection with this chapter show a *map* of the Lake District on the scale of two miles to the inch. It may be one of the Bartholomew series with the heights coloured in layers. Attention should be drawn to the scale. Brown is used for the uplands, and green for the lowlands, as in Plate I. Look at the map as

Chapter xii.

a whole. Try to visualise from it the group of mountains. Measure their breadth and length, and express in fractions of a mile their greater heights. Note the lakes down in the valley bottoms, radiating like the spokes of a wheel. Identify the lakes mentioned in the text. Show pieces of *sandstone* and *limestone*, and make the trial with the *penknife*. Identify on Plate I. the position of the large scale map you are using, and compare the scales.

The introduction at this stage of the large scale map is very important. Generalised maps such as those of the last few lessons are necessarily employed, but we must from time to time return to the wide spreading and detailed realities.

If a *magic lantern* be available, one or two *slides* may be shown of the striking effect produced by clouds in a valley below the observer. Do not, however, at this stage seek to accompany the teaching continuously with lantern slides or even with photographs. Such illustrations in long succession soon become confused in the memory. But one or two very striking photographs and a few simple lantern slides, as here suggested, may leave permanent impressions, especially if used for subjects previously described. The great point is to be ever varying the mode of appeal to the child, and not to allow its mind to get into a rut.

Chapter xiii.

A *map* should be obtained to accompany this chapter which shows on a large scale Holy Island, the Farne Islands, and Bamburgh Castle. The appropriate Bartholomew map on the scale of two miles to an inch will do excellently. Point out the broad tidal foreshore, in order to carry the mind back to the description of the tides in Chapter VII. Visualise Holy Island as alternately separated and joined to the mainland. Realise that Holy Island is seen from Bamburgh Castle, and that the missionary, Aidan, lived close to the Northumbrian King.

On the map imagine that you are looking from Bamburgh Castle to the Cheviot, which is half a mile high, the top being

twenty miles distant. The foot of the hills is, however, only a little more than ten miles away. The undulating ground in those ten miles is the main passage from England into Scotland. Visualise the English army marching and riding through the ten mile gap between the sea-coast and the Cheviot-foot, and the Scots hurrying south from Edinburgh and crossing the fords of the Tweed, and the clash of battle at Flodden. There were and are two main roads through this gap—the one near the coast, the other down the valley of the little river Till.

Show *Scott's Poems*. Identify the quotation on p. 78 in "Marmion," and point out on Fig. 40 that Scott lived near Melrose. You will be anticipating the next chapter, and when they read that chapter the children will have the pleasure of recognising what they already know. If this is done occasionally, but not too often, it produces a sense of pleasure—the pleasure of recognition of the known in the midst of so much that calls for effort because it is new. Moreover confidence in the teacher is increased.

The ballad of Chevy Chase is contained in *Bishop Percy's Reliques* of Ancient English Poetry, and may not be available in an ordinary school library.

In connection with Fig. 40 point out that the Romans would naturally go by road through the Tyne Gap between Newcastle and Carlisle, and that the wall was no doubt carried along the northern edge of the valley so that it might protect the road.

Chapter XIV.

The children have now learned their alphabet of geography. In the Pennine Range, the Lake Mountains, and the Borderland they have begun to visualise the broad hills trenched with narrow dales. They have realised the flow of the streams from their sources, through the dales, out on to the plains, and into the tidal estuaries. They have also had instances of the way in which population gathers especially on the low ground, and of the way in which the roads and railways thread the valleys.

It is suggested that this and the next three chapters should be read without comment, except such as is necessary to explain the words used, and to incite the children to visualise. They have been apprenticed to new methods of thought. Let them "feel their legs" on fresh ground.

In connection with the passes at Shap and Beattock, especially if the school is in a lowland district, the children should be made to realise the significance of a steep gradient on a railway in reducing both the speed and the freight which can be hauled. For this reason railways often run round the hills, making considerable loops.

A copy of *Scott's Poems* will be needed to identify the quotation on p. 82.

Chapter XV.

The key to this chapter is to be found in the view from Stirling Castle. It is difficult to convey in a photograph, or even in a drawing, the impression produced by a panoramic view, and yet the panorama from a height is one of the most valuable of all geographical lessons. For those who live in the north or west of our islands there is of course no substitute for the view itself, but for children bred in the English plain we must perforce try to reproduce the effect. Perhaps the best way of showing this kind of view is by *a folding panorama.* A "folder" of the panorama from Stirling Castle may be had for sixpence from R. S. Shearer & Son, 6, King Street, Stirling. It should be compared with the picture on Plate IX., p. 112, and also with a map of Scotland. The imagination is left to add the rolling moorlands which spread back from the top of the Highland mountain edge and are out of sight. Unfortunately mountains on the horizon tend to be faint in a photographic plate, and their delicate outline is gradually lost on a block from which pictures are printed by the thousand. This must be borne in mind in looking at Plate IX. in some copies of "Our Own Islands." The folder should be carefully preserved for use with the next volume of this series, "Our Island

History." Stirling is the focus of interest in much of Scottish history.

To introduce the habit of using books of reference in connection with your reading, it would be a good thing to read from *a Natural History*, in connection with this chapter, descriptions of the red deer, the grouse, and the golden eagle The animals should then be visualised on the heathery uplands. A copy of the *Poems of Byron*, if possible one containing a portrait of the poet, will be needed.

Patterns of the *tartans* of the three clans named, and perhaps of some others, should be shown. Each should bear its clan name.

Chapter xvi.

Draw attention to the form of the Celtic place names. Instead of saying the Great Mountain the highlander says Ben More, "Mountain Great." So with Strathmore. Also instead of saying Dee-Mouth he says Aberdeen. So also Inverness. But in England we say Tynemouth and Yarmouth. The Celtic way is the more logical. The peasant of the countryside says that he is driving his cattle down from The Mountain through The Glen to The Loch. He and his fellow clansmen make the journey from the familiar Ben to the familiar Loch perhaps daily, but the stranger asks, What Ben? What Glen? What Loch? There are many. Then the peasant replies, "Ben? the Great one." "Glen? the Great one." "Loch? the Ness one." The Celt in other words arranges his names in the order of the questions which they answer. He puts the genus first and the species after, just as does the naturalist.

The discussion of the positions of Inverness and Aberdeen will naturally suggest to the teacher a lesson in regard to the region round his own school. In some cases this may be good at this stage, but simple maps, such as those which have been used thus far in this book, are not likely to be available in most localities, and therefore it is suggested that local study should be postponed until after Chapter XXVII.,

when the pupil will be more fully equipped. There is, it is true, something to be gained when we begin with the Home District. On the other hand it must not be forgotten that there is also something gained when we first perceive an idea in connection with distant places, and then discover that it applies to our own home. The home is seen in a new aspect, as an example of the rule holding widely, and it gains in dignity. Obviously both methods should be employed in teaching, the centrifugal and the centripetal. This particular idea of the rise of a town at the point where several ways converge is perhaps most easily grasped upon the map and in connection with a mountainous country. What is here said relates to the "Home District." The facts of the immediate "Home" have been dealt with in the stage before books (see p. 15).

Specimens of *red sandstone and schist* will be needed.

Chapter xvii.

There are two contrasts to be visualised in this chapter. First we have the contrast of the broad heathery moorlands and wooded glens of the mainland, with the cliff-edged, bird-haunted, naked isles of the stormy sea. Secondly we have the contrast of the Celtic clansmen, driving their small shaggy cattle, and speaking their Gaelic tongue, with the pirates on the sea speaking their Norse tongue. At the time referred to in this chapter it must be borne in mind that the highlanders were Christian and the pirates were heathen—hence the burning of the monastery of Iona.

The word Viking has no reference to King. It is Vik-ing, not Vi-king. Vik is the same as Wick, and signifies an inlet of the sea, a fiord. Ing is a patronymic. Vikings were therefore sons, or people, of the fiord.

The position of Rockall should be measured out on Fig. 51, p. 107, two hundred miles west of St. Kilda.

It might be well to look at the relative positions of Norway and Scotland on the *curved map* of Western Europe, which was used in connection with the first three chapters of this book.

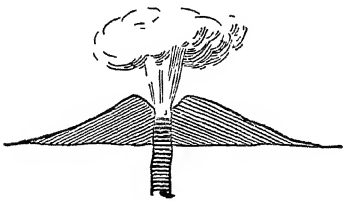
We have now come to a milestone in our journey. Hitherto we have been concerned with the existing relief of the country, and with the existing landscape. Once we stopped to show the lie of the coalfields in the flanks of the Pennine Chain, and for a moment we were concerned with land-structure. At half a dozen points we have visualised the movements of man through the dales and along the coasts. But in the main our anxiety thus far has been to realise the hills and the plains, the valleys and the estuaries as they are to-day.

Chapter xviii.

Now we must take a fresh step. We must call for the effort to imagine great changes in the landscape. This can best be done in connection with those supreme wonders of geography, volcanoes and glaciers. On the west coast of Scotland we have some of the most beautiful and most remarkable features of our islands. They are the products of volcanic and glacial action in the past, and can be understood only if so considered. In this chapter and the next we have an interlude which, if properly used, will break any monotony attaching to our imaginary journey through the islands.

The teaching should be divided so as to produce a series of separate pictures in the mind. These pictures will in the end combine to explain the structure of the Western Isles of Scotland. We begin with the typical active volcano. There are in the market mechanical devices for explaining a volcano, and in the books there are suggestions to enable the teacher to construct his own working model. In my belief we should do better to discard such apparatus. Volcanic action is vast, and the underground sources of it are unknown. Your working model is necessarily small and definite. It tends to limit rather than to expand the imagination of the children. Moreover volcanic action is various, and your model is apt to leave the impression that volcanoes resemble one another more than they do. Add to this the fact that a working machine diverts attention to the ingenuity of the means for generating the steam, even if the erroneous aid of fire is not invoked to create a flare in the crater

The best way is to trust to the children's powers of imagination, which are very great where wonders are concerned. Suggest to them what they should think by means of your words and the *blackboard*. Thus far we have made but sparing use of the blackboard, in order that it might command attention when it becomes the most appropriate aid. See that your board is velvety black. Make use of fairly soft *chalks*—*white, red, yellow,* and *green*. Let the red and yellow represent the volcanic rocks, and the white the ordinary rocks. Begin by drawing a horizontal line to indicate the original land surface. Show a crack coming up from the unknown depths.



Thus far in white. With red chalk insert the hot fluid rock, the liquid lava, rising in the crack. This lava is impregnated with steam, which bubbles from it, shooting up into the air as a steam jet and making a cloud above, which may be represented in white. A spray of the lava is carried up with the steam, and this spray being chilled in the air falls as dust If the cloud above be raining, the dust falls as mud. Whether dust or mud, it builds up a heap round the crack or hole in the ground, which heap in time rises to mountain height. The hole is of course continued up through the growing mountain, and forms the crater at the top. Let the column of lava be in red, but show in yellow the mound of dust and mud around it. Conclude by saying that in the end the mountain may be as much as three or four miles high, and that the cloud may go up a mile or two higher still.

Now with green chalk represent the forest on the land. Imagine the volcanic action to subside. With your *duster* remove the cloud. Let the green vegetation creep up the slopes of the mountain; let it even creep a little down into the crater, now cold. If the mountain were a high one, more than a mile or two high, there would be no forest on the

summit, but only grass and herbs. So-called eternal snow may gather on the head of a very lofty extinct volcano.

Next, with white chalk, bring up the winds and storm clouds. The torrents flow down the mountain side, which, as we have seen, is formed of loose dust and so-called cinder. Deep furrows are scored into the slopes. Gradually the great cone is pulled down. With your duster remove much of the yellow chalk, thus leaving exposed a part of the red column of hardened lava which finally corked the central hole. Splinter the top of this intensely hard rock, and let it become peaked and jagged in the frosts of the upper air. Such a volcanic bone, as it were, with the flesh stripped off, is known to geologists as a volcanic "neck."

We have not a few such necks standing up abruptly and precipitously in some parts of the British Isles. The Coolin Mountains, described in these chapters, are among them. The great volcano in whose throat the rock of the Coolin Mountains was hardened was probably ten thousand feet high. It is obvious that the top of a volcanic neck cannot rise higher than the bottom of the crater of the original volcano. As a fact it is always lower, because the weather has broken away its uppermost heights.

Begin again upon a clean board, and show another kind of volcanic eruption, that in which very liquid lava, rising through cracks in the ground, floods a whole country, burying its landscape under sheets of new rock, whose upper surface is as level as a billiard table. You can of course easily represent this by means of white and red chalk. Be careful to show a rugged original surface, now buried under the lava sheet.

There is no reason why we should not at this point aid the imagination with a simple experiment. Make a little landscape of hills and dales with *clay* in a small *modelling trough*. Melt some *lard* in a *pan*, and having warmed the

trough by surrounding it with *hot water* so that the lard may not instantly be chilled, pour the contents of the pan into the trough. The melted lard will flow over the clay landscape, and form a level surface above it. Now surround the trough with *cold water*. When all is solid remove the block of lard and clay from the trough, and cut sections through it with a *knife*. You will make visible the way in which new molten rock drowns an old, rugged land surface, and forms upon it a plateau with a dead level.

This plateau is gradually worked to pieces by the flow of streams and the action of the weather. Reconstruct your rugged landscape of clay, and for the sake of greater convenience substitute moist *sand* for lard to represent the sheet of lava. Now trench winding and deepening valleys into the lava, so that some of them cut down to the buried landscape of clay. Let these valleys grow broader with the lapse of time. At last there are left merely isolated mountain blocks, because as you can show in the sand, the valleys receive tributaries which enter the main valleys at angles, and thus cut the lava sheet into small remnants, many of them still table-topped. Ben More, in the island of Mull, two thousand feet in height, is such a remnant of the great lava plateau which once filled the Minch valley of the earlier landscape. Most of the Minch is now a sea channel.

To correct the possible idea that the lava is necessarily red or yellow, as drawn on the blackboard, show specimens of *lava* containing steam holes, and of *pumice*, which is hardened froth of lava.

In regard to the hexagonal form of the columns of basalt, comparison may be made with the cells of a *honeycomb*, which should if possible be shown. You can pack the greatest number of columns into the smallest space if they are hexagonal. If they were round you would have interstices left.

Finally, let the children turn to the map of Scotland. Make them visualise the great Minch valley, now drowned with sea, which extends southward between the mainland and the

long ridge of the Outer Hebrides. The sides and bed of this valley are of hard schist, such as we have described in the Highlands. Then let them realise the outpouring of the liquid lava or basalt, which filled the valley up to the level of the tops of the present mountains. Children, and especially boys, very easily picture these mechanical changes. Let the lava cool and harden. Steam bursts afresh through cracks in the lava beds, and great volcanic mountains of the usual conical form are piled up, two miles high, in the midst of the forests, which have in the meantime covered the basaltic plateau. Let the weather wear away the flanks of these volcanoes, and you have, left upstanding and naked, the Coolin Mountains. The same storms and rains trench valleys into the level beds of lava forming the plateau. At last, with a slight sinking of the region, the sea enters the valleys, converting them into firths and straits, and fragments of the plateau, bearing upon them fragments of the volcanoes, are left as islands and headlands. One of these islands is Mull. Another is Skye. The Outer Hebrides are schistic, and older than all the volcanic rocks, whether of the level plateau or the upstanding Coolins. The Coolin volcano has been omitted from the text for greater simplicity. It may be described orally.

Now we pass to glacial action. We contrast the action of atmospheric cold with that of volcanic heat. A *model* of a glacier may easily be prepared to illustrate this chapter. *Putty* may be used to represent the viscous flow of the ice. **Chapter xix.**

Snow gathers in the high valley head, and pressing into ice, descends the winding valley as a long tongue, which melts at its lower end or snout. Along mountainous coasts in the far North and far South, some of the glaciers may reach to the sea edge, and as the ice is always slowly travelling down the valley, the tips of these glaciers break off from time to time and float away as icebergs. But other of the glaciers fail to reach the sea, for their tips are

always melting, and streams flow away from them down the valleys.

It will thus be seen that the ice is not quite so brittle a solid as we think it on a winter day. When it lies in vast mass under great pressure from the accumulating weight of the snow above, it may be compared in consistency to pitch. If we take a lump of *pitch* and put a *weight* on the top of it, the pitch will flatten, the edges of it flowing outward. But if we put some heavy *weights* against two opposite edges of the pitch before it is flattened, then the effect of the weight on the top will be to cause the pitch to bulge outward in lobes between the limiting obstacles, which may be compared to the sides of a valley.

In the case of Greenland and Antarctica, both of which lands should be recognised again on the nameless *globe*, the snow gathers over the high plateau of the interior and buries all the landscape. Round the coasts of Greenland, where the heights drop to the shore, the snow melts in the summer, and the ground is moss clad. But every here and there a glacier tongue extends to the sea, so that the Inland Ice has a fringe of glaciers, as though it were a white shawl thrown over the land. Most of the icebergs of the ocean originate from Greenland and Antarctica.

Around a *model* of Argyllshire and the neighbouring sea bottom *water* may be poured to the level of the present coast line. Upon this model get the children to visualise the glaciers coming down from the Highlands, and projecting into the sea-lochs, displacing the water. Let them visualise the tips of the glaciers breaking away and floating off as icebergs.

On a cold day take the opportunity of floating a piece of *ice* in water. Show that only a very small proportion of the ice projects above the water. Thus will it be realised that a great glacier would travel far down a sea-loch resting on the bottom, and that only when the loch had become very deep would the tip of the glacier float and break away as a berg.

If a *glaciated stone* be not available, show a piece of *glass scratched* with a glazier's diamond.

Finally, accustom the children upon the model to the idea of the sea-level varying sightly in the course of ages round Argyllshire. Get them to describe how the glens were originally worn and trenched into the hard rock by the flow of torrents, the torrents being due to heavy rains brought up from the western ocean. Then let them imaginatively insert the glaciers, due to the same fall of moisture, but under different conditions of temperature. Let them imagine the passing away of the ice-age again, and let them bring the sea back into the lower glens so as to form sea-lochs, straits, peninsulas, and islands.

As a conclusion and reward it would be a good thing to show a few carefully selected and striking *slides of volcanoes and glaciers*. This is obviously the appropriate point at which to invoke the aid of the *lantern*. But do not deluge the children with a lantern show, which will merely leave them bewildered. Be careful to make them realise somewhat of the scale of the things photographed.

End your lantern show with some *views of the west of Scotland and the north-east of Ireland*, so as to bring the minds of the class back to your regional survey. You have made this excursus into the nature of volcanoes and glaciers in order to explain a part of Britain, and you must be careful not to lose the geographical thread of your argument. There is a temptation, owing to the magnificent character of these features, and the enthusiasm which their study generates, to lose our sense of geographical perspective. We are about to travel to a part of Britain which contrasts strongly with the lonely Highlands and Islands

Chapter XX.

The map on p. 128 is sure to strike the attention, and it would be well to turn to it before reading the chapter. Get the children to use the knowledge which they have thus far acquired by asking questions of this map. Try to obtain all the information that

you logically can from it. It will be interesting to see how far the children are able to anticipate the chapter.

The chief features of outline and relief which appear upon the map are the Highlands, the Southern Uplands, the Eastern and Western Seas, the three great Firths, Loch Lomond, and the Peninsula of Fife. Three large rivers—Clyde, Forth, and Tay—descend from the high grounds and cross the central lowland to the sea. On their ways they breach a diagonal belt of hills, dividing it into Campsie, Ochil, and Sidlaw groups. The canal traverses the lowland from sea to sea, so that we infer that the Forth is navigable at least to Grangemouth, and the Clyde to some distance above Greenock. The coal underlies the lowland and not the uplands. Contrast this with the Pennines. Only east of Coatbridge does the coalfield rise above 600 feet—though the map does not say how much above 600 feet, the teacher may add from his knowledge that it is only a little. The Forth between Stirling and Grangemouth cuts right through the coalfield. North of Leith, also, the broad Firth of Forth cuts through a coalfield which is partly in Lothian and partly in Fife. Thus there are really only three coalfields shown, one in the east intersected by the Firth of Forth, one in the centre intersected by the rivers Forth and Clyde, and one in the west in Ayrshire. It is a good thing thus to cultivate the habit of putting two and two together when looking at a map. The railway from Edinburgh to Dundee by way of the Forth and Tay bridges is evidently much shorter than the other railway round by Stirling and Perth. That is why it paid to make those two costly bridges.

Now read the chapter. The children will delightedly see that they have anticipated many of the points made by the author. Compare the manufacturing district of Scotland with the manufacturing district of the North of England, studied in Chapters VIII., IX , X., and XI. Bring out again the *model* of the structure of the Pennine Chain. Remind the class how the coal has been worn away from the top of that chain, and thus divided into the two coalfields of the West Riding and

Lancashire. Then tell them that the coal has similarly been worn away from the top of the Southern Uplands and from the Highlands, but that it has been preserved in the hollow between them. So it happens that there is only one Scottish manufacturing district, but in the North of England there are two, one to the east and one to the west of the Pennine Chain.

The rocky crag on which the castle of Edinburgh stands is a volcanic neck, smaller but of far more ancient geological date than the Coolin Mountains of Skye. There is a striking similarity between the structure of the Central Valley of Scotland and that of the Minch depression. This is, of course, not a subject for a class of young children, but if the teacher cares to follow the matter up for its own sake, he will find it discussed in Chapter VI. of my book on "Britain and the British Seas." The great boundary fault of the Highlands is a very interesting feature. In regard to our geographical teaching, however, we must beware of becoming involved in excessive geological detail. The geographer must stick to his argument, or the sense of proportion is lost in his descriptions.

This chapter should be compared with Chapter X., especially in the matter of the coincidence of the counties with river basins, and in regard to the placing of the county towns. Most of the population of the Highland Counties is concentrated along the low lying east coast. Cliffs end the Highlands along most of the west coast. The contrast between the east and west of Scotland is a favourite question with examiners. The cliffs, the deep glens, and the long sea-lochs have always made communication by land difficult in the West. Glasgow on the Clyde is thus the natural capital of the Western Highlands, with which it communicates by steamer, either through the Crinan Canal or round the Mull of Kintyre. Edinburgh is the capital of the east. The road and railway have a relatively easy path

Chapter xxi.

northward along the shore, and the river valleys descend through open straths from the interior.

Chapter xxii.

At this point the division is made for the purpose of binding "Our Own Islands" in two volumes to meet the convenience of certain schools. It is the point at which we cross over from Scotland to Ireland, but it is not the point of natural division in the treatment of our subject. That will come at Chapter XXIX, for reasons that will then be obvious. Where it can be helped it is a pity to allow an interval or break in the teaching at the present point.

There are three express routes to Ireland with short sea passages—to Belfast by way of Stranraer and Larne, to Dublin by way of Holyhead and Kingstown, and to Cork by way of Fishguard and Rosslare. One of these passages is from Scotland, and the other two are from Wales. Those two lands stand forward in the direction of Ireland. There are longer passages, made usually in the night while the passengers sleep, as from Glasgow and Liverpool to Belfast, and from Bristol to Cork. *A book of time-tables* may be shown to the class. It should be one containing a map.

In dealing with the West of Scotland we have introduced fresh principles, and called for considerable effort. Let us now, therefore, "run easy" for four chapters while we describe Ireland. The method adopted in them is that of comparison. We commence by comparing Ireland with Scotland. We learn what we do not yet know by contrast with what we know already. Provided that the contrasts are conscientiously worked out on the maps, this is an excellent way of breaking the monotony of description. But it is essential that the points of likeness and difference should be mastered visually by the pupils themselves. No scholarly mind will accept an allusion to an unknown fact without asking for an independent statement of the fact itself. Given this habit of

thoroughness, allusions, comparisons, and contrasts become invaluable, for they interlock the items of our knowledge, and impart the sense of values. Here the facts are stated on the maps and the contrasts in the printed text.

The Shannon is the characteristic feature of Ireland. It is a chain of lakes in a rainy land. It serves to divide the remote Connaught on the Atlantic shore from the other three Provinces which face Great Britain. British influences enter at Belfast, Dublin, and Cork. Connaught is the most completely Irish of the four Provinces. **Chapter xxiii.**

As the Shannon is the most characteristic feature of Irish topography, so verdure is the most characteristic quality of its landscape. The Emerald Isle is bathed everywhere in a moist, equable air from off the ocean. The climate is a "soft" climate, and although the east of Ireland is not quite so moist as the west, and although the east has somewhat colder winters and warmer summers, yet the differences are not great, and as compared with Scotland and England we may think of all Ireland as having a single climate. This follows from the isolated character of its mountains. Everywhere there are passages for the sea wind at low level between the mountain groups, whereas the western air is forced upward in the North of England and in Scotland as it arches over the continuous heights along the axis of the land. Hence the contrast between Lancashire and Yorkshire, and between the West and East of Scotland. Even where the Central Lowland of Scotland offers a passage for the wind there are high mountains to the west, in the islands and peninsulas of Argyllshire. Corn is characteristic of the East of England and Scotland. Pasture is more prevalent in the West of England and Scotland. But pasture is characteristic of all Ireland. **Chapter xxiv.**

The experiment with the *stone*, and *string* and the *cup of hot water*, described in this chapter should not be omitted. It is intended to impress upon the mind what is perhaps the most important fact in regard to climate from the point of view of geographical contrasts. Physical geography is in large measure a department of physics, and every teacher should make himself familiar with the great physical principles governing the behaviour of air and water under different conditions. Here, of course, both specific heat and latent heat are involved, and though these terms must not be mentioned to the children, that teacher will teach most clearly and simply who has the firmest grip of their meaning. There are many little "primers" on the physics of air and water, one of which should be read by those whose training happens to have been mainly literary.

Chapter xxv.

In the next, the last of the four chapters on Ireland, a map has been introduced of set design with the hills shown by means of hachuring. This chapter should be recapitulated after the two chapters on Wales, wherein land-relief is dealt with in detail. We should do everything in our power to prevent what I may describe as the pigeon-holing of the mind. Lands should not be studied seriatim, and in turn be consigned to the memory. When we have read the chapter, or chapters, on a country we ought not to think of that country as known and "done with." Our thought of it becomes richer as we contrast it with each surrounding country. We should cultivate flexibility of visual thought. We should acquire the habit of picturing easily districts which are not the usual subject of separate maps in our atlases. When we sketch maps in class, we should aim at illustrating geographical ideas rather than at merely copying current divisions. For example, to show the sea approaches to Britain from the south-west, let us sketch a map containing the south of Ireland, the south of Wales, the west of England, and Brittany. Then we shall understand

the significance of the naval ports in Plymouth Sound, Milford Haven, and Cork Harbour.

Two chapters are now devoted to Wales, and in the earlier of them we must brace ourselves for a fresh effort. In connection with the Pennine Moorlands we have already learned to read a single contour line on the map, although we have not yet used the word "contour." Wales presents us with the opportunity of grasping a more detailed method. Chapter xxvi.

We commence with the mountain of Holyhead, almost in the centre of the British Isles, and then we extend our view to the whole Principality. Models constructed on the layer system will help us. The children are at this stage still too young to construct their own models. Time will not suffice, if we are to accomplish the year's task. There is no reason, however, why *we*—teacher and class together—should not construct models, always provided that the teacher have practised so as to acquire a little certainty and deftness beforehand.

By far the best method of building models which I have seen is that of Mr. A. H. Spary, a master at the Fleet Road Higher Grade School, Hampstead. He abandons the older system of cutting the layers from sheets of millboard with a fretsaw and fastening them in place with glue. In the place of board he uses modelling clay, which he rolls into sheets, precisely as a cook rolls out pastry. The needful appliances are a *drawing-board*, a *roller*, *pairs of guides*, *modelling clay*, and a *sheet of glass*. For the roller two feet of a broom handle smoothed with glass paper will do admirably. The guides are slips of wood, about a foot long and an inch wide, but of varying thickness, so that they may represent the varying distances between the contour lines. Thus, if we assume a vertical scale of an eighth of an inch to 600 feet, and the contours which we select for representation are at heights of 600, 1500, and 3000 feet, we shall need pairs of guides

respectively one-eighth, five-sixteenths, and five-eighths of an inch in thickness.

Let us proceed to construct, in the first instance, a model of Holyhead Mountain, according to the map given in "Our Own Islands." The first thing to do is to draw the contoured map on a sheet of paper on a larger scale—on a scale, let us say, three times that shown in our maplet. There are seven contour lines, each representing an additional height of a hundred feet. Let us indicate a hundred vertical feet by a thickness of one-eighth of an inch. Then the total height of our model will be very nearly an inch, since a little cap of clay must be put on to the top to represent the last twenty feet, for the peak is 720 feet high.

Take a piece of the clay in good condition and roll it out on the drawing-board. Roll lightly, and frequently turn the clay over. When approaching the desired thickness, place on each side a guide one-eighth of an inch thick. Continue rolling until the guides are reached and the layer is exactly one-eighth of an inch thick. Now place the glass over the map, and with a *paint brush* and a little *enamel* trace the outline of the coast. Insert a few guiding marks for the 100-foot contour line. With a pair of *scissors* cut the map along the 100-foot contour line, and lay the paper so shaped upon the clay. Cut the clay with a *penknife* to the pattern, remove the superfluous clay, and place the cut layer carefully upon the glass, following the indications of the painted marks. Repeat the process for each successive contour line and so build up the mountain.

It only remains to fill in the steps, so that the slopes may be continuous as in nature. Softer clay should be used for this purpose, and should be worked into place with the thumb, and with a flat *modelling tool* with a curved edge. The first step to be filled will be that on the glass itself between the painted coast-line and the edge of the first layer of clay, which represents the 100-foot contour line.

I can speak as to the practical value of this method. I have myself seen boys of eleven at work upon it. In little more

than twenty minutes they built up a model of the island of Corsica. Permanent and repeated models can of course be made from the clay, by taking a negative in plaster, but a good deal of time is necessary for this, and there is little educational value in it. No doubt it is occasionally useful to have a museum of models, but the use of "ready made" models is apt to be perfunctory. The intense stimulus of actual construction is lost. Moreover, the object of a model is to teach us to visualise when we look at a map. Maps are much truer and more delicate than any but the most finished and expensive models, and they are more portable and far easier to store.

I have seen attempts to apply Mr. Spary's method to large countries such as Germany and France, but it did not appear to me that they were successful. It is impossible to construct models of such large regions which shall not either be ineffective because of their low relief, or misleading because of their exaggerated relief. In my opinion a country as large as Wales is about the largest that we should attempt to show upon a model for purposes of teaching. The maps of Wales in this chapter may conveniently be used as the basis of a model of Wales, and we may turn back to the previous chapter and construct, if we will, a model of the mountains of the South of Ireland.

A certain amount of exaggeration in the matter of vertical relief is unavoidable even in regard to small countries such as Wales. It must be remembered, however, that there is in Nature an illusive exaggeration of the same kind. Down in the valley the hills around may appear relatively low, but climb to a certain height up the valley side and the hill opposite will appear to grow in height. Every one who knows Oxford will remember an illusion of this kind from Headington Hill when we look across the city to Wytham and Cumnor. It is due to the fact that we unconsciously assess the slope opposite not with reference to the horizontal, but with reference to the slope which falls away from our feet. Therefore to imitate Nature, as we see it, it is quite permissible to use some small

exaggeration of vertical scale, even when our model purports to represent the actual landscape.

A model of the school neighbourhood should now be constructed upon the basis of the Ordnance map or one of Bartholomew's well-known maps coloured according to the layer system. Should the school be in the north of England or in Scotland we may turn back, when the chapters on Wales have been completed, and follow the descriptions of relief given earlier in the book, building the pertinent models It is far more educative quickly to construct a dozen models or to draw a dozen maps, with general correctness of proportion and accuracy of some selected detail, than it is to spend the same time on slavish accuracy of the whole.

From our modelling we return to our reading. In the account of the Principality one of the most important contrasts in geography as it affects human society is described, although its full significance will not be realised until the influence of it has been studied in other lands. We may bore tunnels through a high but narrow mountain range separating two populous lowlands, and thus emancipate ourselves from the containing limits of Nature, but the difference between broad upland and lowland is one that cannot be overcome by the engineer. The climatic contrast imposes a contrast of daily occupation, and this in turn leads to distinctions of industry and social custom. Thus it often happens that the rich lowland is conquered by an incoming race, but that the arts and habits of that race do not fit them for the occupation of the adjacent upland. There the original people may maintain themselves, so that we often find a contrast of language along the border of upland and lowland, as in the case of England and Wales.

Chapter xxvii.

From Wales we cross the Bristol Channel into the West of England, the long peninsula which was once another

Wales, a land, that is to say, in the Saxon tongue, of the Wealas or foreigners. It is studded with high groups of hills such as Dartmoor and Exmoor, and these complete the list of the higher grounds of Britain. Chapter xxviii.

Thus we are brought to the broadest contrast in British geography. It was of set design that in constructing this book I refused to follow the ordinary practice of dealing with England first, and then with Scotland and Ireland. Until within the last two hundred years almost all that made our country great in Europe was contained in the English Plain. All the dominant characteristics of John Bull were evolved by the sturdy Saxon farmers who lived and still live in that Plain. London is not very far from the centre of it The Narrow Seas are its limit eastward and southward, and beyond them is the civilisation of Europe. Northward and westward the Plain ends at the foot of the barren hills, with here and there a tongue of the fertile lowland extending into the upland region. York and Chester are foci in such extensions of the Plain. Chapter xxix.

With the application of coal to the industries, wealth and civilisation have gathered of late in the North of England, Wales, the South of Scotland, and the East of Ireland, and even the Scottish Highlands and the West of Ireland have been knit to the remainder of the country as playgrounds. But to this day there remains a broad and deep distinction between the historic England of the Plain, and the communities of the north and west which are in many aspects newer than the New England beyond the Atlantic. Nor is the distinction entirely historical, or in those things which come down to us from history. The climate, the soil, and the activities of that third of Britain which lies round London are, and must always remain, different from the two-thirds which lie north of the Peak of Derbyshire and west of the Welsh Border.

For these reasons let us emphasise the paragraphs with

which our twenty-ninth chapter opens. If the children have really visualised the Pennine Moorlands and the Welsh Uplands, you will have no difficulty in getting them to look down from them on to the green meadows and golden cornfields of the lowland. Make them picture the rich landscape as spreading on mile after mile until at last they come to white surf where the waves of the North Sea and of the English Channel break.

Give a sense of spacious unity to the idea of the broad Plain by reading on without break through the next three chapters. You are dealing not with the salient features of Scotland, Ireland, or Wales, but with gentle undulations and widespread cultivation.

Chapters xxx., xxxi., xxxii.

The one great feature of the Plain is London, a feature made by man. Greater London, within the Metropolitan Police District, has seven and a half million people, or one-sixth of the population of the whole United Kingdom. The great cities of the North and West are founded upon coalfields, or stand beside harbours and serve the coalfield towns. But why should London be where it is? Imagine the houses gone, and what would there be to distinguish this spot from many another in the broad Plain? To answer this question we must have recourse to the two principles of nodality and momentum, terms not to be mentioned to the children, though we must teach them the principles.

Chapters xxxiii., xxxiv.

I have discussed nodality and momentum in the chapter on Economic Geography in my "Britain and the British Seas." Here let me state shortly their essence. A node or knot is the point of meeting of several roads. In proportion to the number of the roads and their importance is the importance of the node. A place which is at the meeting point of several important roads has a higher nodality than one which

stands where few and less important roads meet. In the case of London for more than a thousand years the only bridge was London Bridge, and there was no other lower on the Thames than Kingston. London was at the lowest point where the river could be bridged, because the water is broad below, and one or other of the facing banks is always marshy. London Bridge is sixty miles from the sea at the Nore. Beyond the Nore the great promontories of Kent and East Anglia stand out yet further eastward on either side of the estuary. Thus roads must converge to cross at London Bridge from the whole circuit of the horizon except due east. Not only so, but the tidal sea-way comes from the east to meet the river navigation from the west at the Bridge. Thus London has a high nodality with respect to the English Plain, and the roads which meet in London are important and frequented because the English Plain is fertile and populous. For these reasons London became the chief city of the Plain.

The principle of momentum or inertia is so called by analogy with the same principle in mechanics. Newton's "First Law of Motion" is to the effect that a moving body tends to continue in movement with the same velocity and in the same direction. The heavier the body the greater the force needed to stop or divert its motion, because its momentum is greater. We express a similar idea in regard to business when we speak of "goodwill" and of the "customers" of a firm. A "going concern" has so much power of keeping going, that we buy and sell its momentum. A public market has a very remarkable degree of momentum; it is a most difficult thing to get customers into the habit of attending a new market.

London became the chief place of the English Plain by virtue of its nodality, but when the English Plain and the English Nation, which grew up in the plain, became the heart first of a United Kingdom, then of a great foreign commerce, and finally of a world-wide empire, London, the heart within the heart, attracted to itself no small part of the vast growth which ensued. "To him that hath shall be given." Roads,

canals, and railways were all constructed to converge upon London, because London was already great when men began to construct them. Thus it became easier to get to London than to any other place. Hence we have the sequence of causation—London is great by virtue of its nodality in the English Plain; the roads are constructed to London because of its greatness; and it becomes greater because of the roads. In the last hundred years the population of London has increased from one million to over seven millions. The earlier growth was by reason of nodality, and the later by reason of momentum.

These are the principles which must be borne in mind if we would teach vividly in connection with these two chapters, and indeed in connection with all the remainder of this book They are expressed here for the teacher; they must be diluted and put informally and concretely for the child.

Chapter xxxv.

Having now traversed all the sections of our land, from the Hebrides to the Metropolis, we must endeavour to grasp its geography as a whole rather than in its parts. In regard to every complicated thing there is a lower and a higher simplicity of thought. First we see the wood, then the trees, and finally the wood of trees. An artist studies anatomy. He can see the form of the body before he does so, but when he has studied the substructure of that form, he sees it with fresh eyes. We saw the British Isles on the globe, and off the coast of Europe, but now that we have dissected them district by district, we must use our fresh eyes. With this object we recapitulate from various points of view.

We begin with a chapter that has a historical flavour. Let us note, however, that it deals with the facts of to-day. Names are facts, and very important and stubborn facts. We must have names for places, or we could not talk about them. The names must be generally accepted, or they would be useless. We first hear them from our elders, and

our juniors hear them from us. Thus the names of places are often very ancient. If we examine them, they often tell us about the far past, just as the basaltic columns and glacier-marked stones of the west of Scotland tell us of another past.

There are few ways in which England of to-day differs more from England of the past, than in the ease with which we travel from one part of the country to another. A human society has centres and nodes, exactly as the human body has a brain and a heart. But the brain and the heart are useless without nerves and arteries for communication with the rest of the body. So also you cannot have a nation without roads and other means of communication. In the chapter on the Beacons we have the means shown whereby England managed to act as one man even in the olden time. Macaulay's poem should first be read through for the sake of its music, and then each name should be identified on the map. Finally, with fingers moving from hill to hill, we should try to visualise the twinkling points of fire as they sent their message through the land on that historic night.

Chapter xxxvi.

Of all the works of man the railways have made the greatest change in geography. Indeed, for many people geography is a matter of railway junctions. Let us recapitulate in a practical form all that we have learned in this volume, by considering the lie of our main lines of railway. Railway maps have been inserted opposite to the sectional coloured maps. If tracings be taken of these railway maps, they may be superimposed on the coloured maps, and lessons may be learned from them. Thus our topographical knowledge may be pleasantly clinched.

Chapter xxxvii.

No one makes a railway unless there is business to be done upon it. Therefore we consider from what places and to what places the railways run. And no one makes a railway at

greater cost than can be avoided, whether it be prime cost or cost of working. Therefore our railways wind round the more important obstacles. Broadly speaking, our British railways form a star of nearly direct lines from London over the English Plain, but when they come to the uplands of the North and West, they branch and twist in order to avoid the heights and the sea entries.

We began this book with measurements of direction and distance, in order that we might study localities with accuracy.

Chapters xxxviii., xxxix.

We return to measurement in conclusion, the measurement of area and population, in order that we may sum up the whole with accuracy. With the aid of the little maps of the distant parts of the Empire, we set our ideas of area and population into world perspective. The nameless *globe* should be brought out again, and the *curved map* of north-western Europe. Where is Britain? And where the neighbouring lands of France and Germany? Where are the great Dominions of the Empire across the ocean? Let the fingers tell them over. Realise their comparative areas upon the globe and not upon the flat map.

X

"OUR ISLAND HISTORY"

In the scheme of learning put forward in this book we give three, or it may be four, years to preliminary teaching, from the fifth birthday onward. Then we spend one year, or if need be eighteen months, in the company of "Our Own Islands." It is essential not to hurry with the foundations, but if the foundations have been well and truly laid we may go forward without hesitation, and may read the remaining five books of our series at the rate of a book a year. Let us assume that we stand now at the opening of the tenth or eleventh year of the child's life. If it be the tenth year, we shall be able to complete the whole series by the end of the fourteenth year; if it be the eleventh year the last book of the series must be postponed to the continuation school.

Up to this point our aim has been to win a sense of perspective in space. If we have succeeded in that aim, we can look from the earth to the sun, or over the surface of the earth, or over the map of Our Own Islands, and we know where we are. Standing at any point, whether in fact or imagination, we know our relations with surrounding objects, or are conscious that we can know them if we take the trouble to think of them.

Time must now come into the foreground of our attention. We must acquire a sense of "the stream of time." To-day is continuous with yesterday, and therefore with the day before. Continuity is the fundamental conception of history—the continuity of a people whose individuals are ever changing.

Perspective in regard to time is analogous to perspective in regard to space. Indeed, many people visualise time

spacially. For some Antiquity lies away to the left hand, the Middle Ages are to the left front, and the Present is to the right front, near the right arm of action. Others have a feeling that Antiquity is far behind them in the back of their minds, and that the Middle Ages are nearer, but still behind. The essential point is that when we think of any event we should think of it in its time-atmosphere. To repeat the conception of the stream of time, when we think of the River Thames flowing down to the sea past Oxford, Reading, Windsor, London, and Gravesend, a village near Oxford appears in quite different surroundings from a village near Reading or near London. An event of the seventeenth century has a different flavour for the historical mind from a similar event of the thirteenth century. The surrounding events, which come forward automatically from the mental background, are different.

The problem is how best to begin the acquisition of time perspective, which is more difficult for a child, because less natural, than perspective in space. A child can see the sun ninety million miles away as well as an adult, but a generation of time is something to which there is no counterpart in childish experience. The years of its own age are little eternities. Periods of thirty or forty years have no real meaning for it. History is made up of generations, and a generation means nothing to a ten-year-old. As we grow up and grow old great changes come to pass in our own time, and at last history seems to shrink into an affair of only a few lifetimes. In the end I am not sure that the infinities of space are not more wonderful than the infinities of time.

Given the difficulty of inspiring the time-sense, it is obvious that we must simplify. We begin therefore by telling the story of our own nation as though it were the story of an individual. In the case of England we have for school purposes an extraordinarily simple and continuous theme. Until within the last two hundred years, London was the only large town in our land, but London was already one of the great cities of Europe. England consisted of the citizens

of London and of the farmers of the English Plain around. One King and one Parliament were the natural government of such a people, and the story of the contest between King and Parliament becomes an epic. English History is a single river of events, a simple story of "freedom slowly broadening down from precedent to precedent." Only when we reach quite modern times is the simplicity lost, owing to the entry of tributary histories—Scottish, Irish, North American, and Indian.

In connection with the first ten chapters of this book, it is suggested that the pupils should make their own historical atlas. Let them draw maps of the different regions with their dominant physical features, so that the historical movements may be visualised upon them. The map of Britain is already known and familiar. We are going to enrich it with historical associations. When we have read the book which we are now opening, our national history should be firmly pegged down to the scenes in which it was enacted.

Two general ideas should be borne in mind when we draw our historical maps. In the first place, nearly all the lowlands were covered in the old time with dense forest, except those which were marshy. The Celtic and Saxon tribes for the most part inhabited the lower uplands, such as the chalk downs. These uplands may be thought of as in those times rising like islands from a forest-sea. There was often tillage upon them where to-day is only pasture for sheep.

In the second place, the lower valleys of the rivers, even of the smaller rivers, were for the most part filled with marsh, and the tide ran further inland than it does to-day. Long tongues of reedy silt, with tidal channels, penetrated many miles from the coast, and were very real impediments to movement by land. At the same time they afforded ways into the heart o the country for the boats both of traders and pirates. The change which we now see in the valleys is not merely due to artificial embankment, but in large measure to the clearance of the forests. To day the rain runs off the land quickly. It may at times cause floods, but at most seasons the rivers are small, except in so far as controlled by locks. Formerly the forest

acted as a sponge, from which the rainfall was only gradually drained. The present more rapid off-scour results in a greater quantity of sediment being carried down, and hence the level of the valley-beds along their lower reaches has been raised.

Thus the important thing in these maps, after boldly sketching the coast-line, is to distinguish between the open uplands, the lowland forests, and the marshy estuaries. For these features use brown, green, and blue chalks. Insert no names to spoil the graphic effect, but mark the town-sites and the road-lines as they are mentioned in the text. For greater accuracy, if that be desired, the names may be spelt in the margin.

Each chapter should first be read through, in order that the narrative may be realised. The reading should be by the children, but when some specially dramatic event is approached, the teacher should take up the reading himself, in order that the force of it may be felt and enthusiasm roused. The important point is that whether for the moment everything is understood or not, each chapter should in the first instance be read as a continuous story, so that the rush of the narrative may not be broken, and the human interest may not be lost. Where a map is pertinent it should be sketched boldly in outline, and the hilly districts and the forests and the marshy valleys should be chalked in. Finally, the chapter should be read again, this time slowly and with comment by the teacher, the movements being visualised on the map, and the towns and roads being inserted.

One word as to dates. There are, of course, a few milestones in history whose dates should be accurately known, but for the purposes of the ordinary British citizen they are very few. Surely some such list as the following will suffice :— the coming of Cæsar in 55 and 54 B.C., the withdrawal of the legions in 410 A.D., the death of Alfred in 901, the Battle of Hastings in 1066, Magna Carta in 1215, the Battles of Crecy and Poitiers in 1346 and 1356, the Battle of Agincourt in 1415, the Armada in 1588, the execution of Charles I in 1649, the Restoration in 1660, the Revolution in 1688–9, the death of Queen Anne in 1714, the taking of Quebec in 1759, the accession

of George III in 1760, the recognition of American independence in 1783, the French Revolution in 1789, the Battle of Trafalgar in 1805, the Battle of Waterloo in 1815, the death of George III in 1820, the first Reform Act in 1832, the accession of Queen Victoria in 1837, the Crimea in 1854, the Indian Mutiny in 1857, the Boer War in 1899, the death of Queen Victoria in 1901, and the death of Edward VII in 1910.

For the rest what is needed is a "feel" for dates, and this may be obtained rather by what may be described as time-visualisation than by the arithmetical memory. As an aid to such visualisation I have placed at the opening of "Our Island History" a table of the Centuries, which is reprinted on p. 114 of this book. There equal space is allotted to each century in order to produce a sense of the even flow of time. Normally we exaggerate in our mental picture the span of those centuries of which we have the best record. How many people, for instance, realise that more than one half of the recorded history of Britain had elapsed before the Norman Conquest? What we need for a working historical judgment is that we should visualise the centuries much as we visualise the twelve hours on the face of the clock. If we think of Edward I we should think of him as late in the thirteenth century—the date of his accession, 1272, is quite unimportant, except to the professed historical scholar.

I am fully aware that many children memorise dates easily, and that many adults have memories loaded with numbers. None the less I hold to my own opinion, that "time-visualisation" and "judgment" in regard to dates are the more valuable. Of course it is essential that dates should be given in a history for the very purpose of forming this judgment, but they are not intended to be learned by rote.

Chapter i.

Our first chapter does three things. In the first place, it introduces the idea of the measurement of time. It is thus the equivalent of Chapters IV and V of "Our Own Islands" in regard to space. In the second place,

it contrasts the value of eye-witness and of mere legend and hearsay. It seems to me of great importance to make our young people a little critical as to what they read in print. In the third place, it tells the story of the invasions of Cæsar, as far as possible in his own vivid words.

If the school can afford it, it would be well to have a small plaster *bust of Cæsar*. Tell the children that in the British Museum they may see a bust in marble which was probably made in the time of Cæsar himself. The bust is evidence of what the great man was like, and therefore we should be critical as to its authenticity. Let the children see *a copy of the Gallic War in Latin*, and draw their attention to the passages quoted in this chapter, so that they may think of them as part of a continuous narrative, even though they know not one word of Latin.

Note that a Roman Legion was the equivalent not of a modern battalion, but of a brigade or regiment of several battalions.

Cæsar says nothing of knives on the chariot wheels of the Britons. That is a legend of after times. Obviously such knives would have been a menace to friends as well as to enemies. The blue pigment of the Britons was called woad.

The equivalent of A D. in the Roman system of counting time was A.U.C., or *anno urbis conditæ*, which means "in the year from the building of the city."

Two questions may be raised by critically-minded children, especially if confused by elders at home: Did not the twentieth century begin with the year 1900? and may there not be more than three generations in a century?

The first of these questions was discussed in the public press in the year in point. The matter is best made clear by referring to the first century, which began with the first year, and did not end until the last minute of the hundredth year. In other words, A.D. 100 signifies the hundredth year, and not that a hundred years have been completed.

In regard to the number of generations in a century, it is obvious that under favourable circumstances there might be four or even five. In a series of generations there are likely, however,

to be some late marriages Moreover, we must not consider only the eldest child of a family. In history we are concerned with the average generation The assumption of genealogists, for the guidance of their researches, is that about a hundred years separate the birth of a father from the death of his son. The importance of thinking in generations in regard to history lies in this, that older people do not easily change their point of view. A new generation must therefore grow up before the point of view of Society as a whole is likely to change materially.

It is intended that two aspects of these seven chapters should be emphasised in teaching. On the one hand, as their titles indicate, they are concerned with heroes—leaders who accomplished great things but whose personalities are lost in the mists of legend. On the other hand, the maps inserted are of prime importance, for as the French historian, Michelet, wrote, "In the beginning history is all geography." **Chapters ii.–viii.**

The pictures may be made to speak by calling attention to significant details. In Fig. 2 the eagle-bearer of the 10th Legion is the central figure, but note that the Roman ships are coming along the coast beneath the cliffs, as though seeking for an open shore suitable for a landing. Follow the coast of Kent upon the map, noting where are the chalk cliffs in the island of Thanet and north and south of Dover, and where are the stretches of low coast between Deal and Thanet and from Folkestone westward.

In Fig. 4 note the classical architecture of Rome, and contrast it with Gothic architecture. Observe the captive Caractacus marching among the soldiers before the four-horse chariot of the triumphing general. Such a chariot is known as a "quadriga." The ladies and gentleman on the balcony to the right hand indicate the civilisation and luxury of the great Metropolis. You may see a quadriga in sculpture upon the arch at the Piccadilly end of Constitution Hill in London.

Turn to Fig. 1 on p. 4, which shows the map of the Roman

Empire. Note that Rome is in the centre of that Empire, and the British province at the far end of it. Our land was then at the end of the known world, not in its centre. Note the river frontiers of the Roman Empire—Rhine, Danube and Euphrates. Turn to Fig. 5 on p 15, and observe how the three Legions in Britain were numbered. The remaining Legions of the Roman Army were stationed along the Rhine, Danube, and Euphrates.

In Fig. 9 we have the landing of Hengest and Horsa in their three keels. They have been invited to come, but they land with military caution, stationing sentinels for greater safety. We are looking south-westward. The cliff on the horizon rises gradually from Deal southward towards Dover. The low horizon behind the ship which is still sailing is the entry to the Wantsum Channel. Compare this picture with the map in Fig. 8.

In Fig. 12 we can see Scotland across the North Channel. The boy Patrick is looking back to the land of his birth from the land of his captivity. Compare this picture with the map in Fig. 11.

In Fig. 13 note the priests beneath the tree beyond the throne. Queen Bertha had brought with her from across the Channel her chaplain, so that Augustine, who is seen heading the procession of his monks behind the Cross and the Picture of Christ, had already "friends at court."

Fig. 16 should be read into Fig. 15. The burning monastery, the rapid oncome of the pirate ships, and the panic of the inhabitants give a dramatic and lurid meaning to the bold sweep of the arrows in the map.

In Fig. 20, at Clontarf, we are looking eastward along the north shore of Dublin Bay and can see Howth Head in the background. Compare with the map in Fig. 19.

In Fig. 21 observe the timbers of the wooden palace, and the heavy curtains which keep out the draughts. Stone buildings were rare in England until the Norman Conquest.

Now let us turn from the heroic and personal side of these chapters to their geographical significance. It is said that children take little interest in what is not personal in history.

The truth is that a child will take interest in anything which is dramatic, or in other words, in anything which contains action and movement. Many things which are not dramatic when stated in sentences, become so when they are visualised upon the map. Take, for instance, the discussion of the Saxon Shore at the beginning of Chapter III. In Fig. 5, on p. 15, we see the three Roman legions stationed in the north and west. But in Fig. 7, on p. 19, we have the east coast bristling with fortification. Why? The map of Europe and the sweep of the hand over the map will give the reply. In the west and north were the unconquered Britons of Wales and Scotland. Against them from Rome across the Strait of Dover came the Roman legions to York, Chester, and Caerleon Other Roman legions advancing northward through Gaul from the Mediterranean turned eastward to the Rhine, but did not conquer the Germans beyond. Three centuries passed, and Rome weakened. Then pirate ships come out of the German rivers, and infest the North Sea. One legion at least must be brought across the English Plain from the Celtic Border to what has now become the Saxon Shore. Children readily understand the thrust and parry of such a great game.

In dealing with the maplets in these chapters be careful to make them live. Make them speak by inserting in imagination their essential physical features. In Fig. 3, p. 7, for instance, there is a reason for every turn in the voyage and march of Cæsar. The tides sweep to and fro through the Strait of Dover from the Channel to the North Sea and back. Therefore, the course of Cæsar's fleet is shown, not direct from shore to shore, but with a swerve upon the tide. He lands on the low-lying coast at Deal, north of Dover cliff. Then he marches through Kent, with the marshes of the Thames estuary to his right hand, and the great Wealden Forest beyond the Downs to his left hand. South of London the line of the chalk Downs bends and the path bends with them. So we come to the traditional point above Kingston where Cæsar is supposed to have crossed the river in order to attack the British chieftains, who had retreated behind that defence.

In Fig. 5, on p. 15, the question will naturally be asked why Camulodunum or Colchester should have been so important. The answer is given by the map itself. Boulogne, on the estuary of a small river, was the usual port in Gaul for departure to Britain. Ships bound from Boulogne to the Thames ran northward on the flowing tide, and then through Wantsum Strait, between Thanet and the mainland of Kent. Once through Wantsum it was as easy to make for Colchester as for London, and Colchester was better placed for communication with Lincoln and York, because there was a great forest north of London, and the north road from London Bridge was apparently not built in the earlier Roman times.

Fig. 11 teaches a lesson which should not be lost. Maps tend to make us think of the lands as isolated from one another by the sea. Here, however, in the north-east of Ireland and the west of Scotland, is the twin-land of the Scots. For boatmen a system of intricate sea ways may unite rather than sever. So it was and is with the Greeks in the Aegean Sea.

Fig. 14 should be correlated with the description of the North of England in Chapters VIII. to XI. of "Our Own Islands." The Angles founded Northumbria from the east, and ascended the rivers and dales to the Pennine Divide. Behind that Divide the Britons of Strathclyde were for a long time able to hold their own, except at one point, where the dales of the eastward Aire and the westward Ribble descend from the Divide. As shown in "Our Own Islands," a deep gap there cuts athwart the range, and through that gap the Northumbrian Angles pushed their way to the Irish Sea. To this day Yorkshire includes Ribblesdale, although not any longer the Ribble estuary. Note that Edinburgh, in later times the capital of Scotland, was the frontier fortress of Angle Northumbria.

In Fig. 17, on p. 50, we can see why Edinburgh lay outside early Scotland. The isthmus between the Firths of Clyde and Forth lies low, and is traversed from Ben Lomond eastward by a belt of marsh through which the river Forth meanders slowly. The Firth of Forth, the Forth marshes, and Loch

Lomond constitute a natural boundary, difficult to cross in the face of an enemy The Scotland of Kenneth MacAlpine lay north of this boundary. It centred naturally in fertile Strathmore, where upon the lower Tay are Scone and Dunkeld.

Figs. 22, 23 and 24 speak together. In Fig. 24 we can see how the Danes in their ships entered the rivers of the east and ascended them, so founding the Danelaw. In Fig. 22 we can picture Alfred retreating from Winchester into the marshes of Somerset, and then advancing with the fyrd of his native Wessex against the Danelaw. In Fig. 23 we have the frontier between Alfred and Guthrum, the meaning of which is explained when we turn back to Fig. 22, and note the partition of Mercia between the Danes and the English English Mercia is the land of the westward flowing Severn, and its tributary the Warwick Avon These rivers were naturally more difficult of access to the Danes than the rivers of the Humber and Wash. The barbarians, English and Danish alike, were no road makers, but the Roman Watling Street, doubtless fallen into decay and no longer available for wheeled traffic, still made a straight line of stony gap through the forests, not far from the water-parting; and, therefore, offered a most convenient boundary to be adopted by treaty. Watling Street is still for many miles the boundary between Leicestershire and Warwickshire.

There is one question, however, which these three maps, Figs. 22, 23 and 24, ask, and do not answer. Why did not the Danelaw extend up the Thames? You will find the answer in the text of Chapter IX. On p. 75 we read that Sweyn of Denmark, and Olaf of Norway, sailed up the Thames with 94 ships intending to burn London; but London withstood them. The Romans left behind them not only their splendid roads, but also the walls of London, and perhaps also London Bridge. There was certainly a London Bridge in Roman times, for a wonderful series of Roman coins, which were thrown from the bridge as votive offerings, has been recovered from the bed of the river. Certainly, also, there was a London Bridge, which was fortified, in the time of the Danish invasions, for on

one occasion the Danes cut a canal through the marshes on the Surrey side in order to get their ships up to Westminster, and so avoid the barrier which they could not take. London appears to have closed the Thames in many times of early danger, and thus to have preserved south-western England for the English.

Every opportunity should of course be taken to give reality to the past by showing its tangible remains. In many parts of the country, for instance, there are typical stretches of straight Roman road, such as Watling Street along the boundary of Leicestershire and Warwickshire, the Foss Way in Gloucestershire, the road east and west of Silchester along the boundary of Hants and Berks, and Stane Street running diagonally through Surrey and Sussex in the direction of Chichester. In the London Museum, recently established in Stafford House, is the fine hull of a Roman ship.

The books should also be shown which are referred to as authorities in the text, especially Tacitus, the Anglo-Saxon Chronicle, and Bede. There are translations of these books in the Bohn Series, and the school library should, if possible, have copies of them. Passages illustrative of the text may easily be selected and read out. In the case of passages actually quoted in the text, slight differences of wording may be detected. We are concerned with translations, and no two translators use precisely the same words.

Chapters ix. and x.

These two chapters are concerned with the Danish and Norman Conquests of England. In essence the two conquests were a single episode, for in both cases the conquerors were of the Scandinavian race of pirates, notwithstanding that the Normans had come to speak French by the time that they fought at Hastings. Queen Emma, who married Ethelred the Unready, and was the mother of Edward the Confessor, was the daughter of the Norman Duke Richard III, and aunt of William the Conqueror. When King Ethelred was dead, she married the Danish King Canute. The kinship of Norman and Dane was

still recognised, and Queen Emma was regarded as marrying with one of her own race.

The conquests differed widely from the piratic raids which preceded them. The pirates first came to England (p. 62) in the year 793, and they continued to harry our coasts until the year 878, when their attention was diverted to Northern France. There, in 885 and 886, they besieged Paris, and they did not return to England until near the close of the reign of Alfred in 901. In 912 the French king granted the Duchy of Normandy to them at the time when Edward the Elder was conquering the Danelaw. Thus we connect intimately the Scandinavian settlements in the east of England and in the north of France.

On p. 78 we read that Sweyn, King of Denmark, determined no longer merely to raid and plunder in England, but that England should be conquered. On p. 94 we read that Hereward, the last English leader, submitted in 1071, and that from that date William was master of England. The period of the Conquest thus lasted from 1013 to 1071. It differs from the period which preceded it, from 793 to 1013, in this, that in the later period we were attacked by organised foreign countries, the Kingdom of Denmark and the Duchy of Normandy, whereas in the earlier period the marauders and settlers were bands of adventurers, recruited by young leaders, such as Sweyn and Olaf (see p. 75).

The one great difference between the Danish and the Norman Conquests lay in the fact that the Danes were based on the pagan North, and became Christian only in the midst of their conquests, whereas the Normans were more Christian than the English. They brought with them to England the highest civilisation of their time, which was to be found in Lombardy and Normandy. Lanfranc and Anselm came from Lombardy to Bec in Normandy, and thence were translated in succession to Canterbury.

In the early part of Chapter X. care should be given to making the pupils realise how great a man was Charlemagne, at a time when England was still divided among the tribes of

the Heptarchy, for Charlemagne was dead before Alfred was born. Be careful to collate the two passages (pp. 60 and 83) referring to Charlemagne. Make your pupils realise how small was the kingdom of Alfred the Great as compared with the Empire of Charlemagne. When dealing with the break-up of that Empire (p. 84) show upon the map that Normandy, Flanders, and Anjou were much larger than English counties. They corresponded rather to our kingdoms of the Heptarchy. Wessex was not much larger than Normandy. Thus the earldom of Godwin was about equivalent to the duchy of William.

The drama of the year 1066 should be enacted on the map, as indicated in the Preface to "Our Island History." Its strategy is made clear in Figs. 30 and 32. In Fig. 32 we see how William isolated London by cutting it off first from the Continent and then from the rest of England.

There is a fine copy of the Bayeux Tapestry in the South Kensington Museum. The facilities for travel have now so increased that schoolmasters sometimes take classes of fifteen and twenty boys across the Channel. With scout discipline this should be more and more practicable. May I commend to any such the trip to Cherbourg and on to Bayeux to see the real tapestry?

In Fig. 31 note that the English wear moustaches, but that the Norman soldier, whose face can be seen in profile at the lower edge of the picture, is clean shaven. In the Bayeux Tapestry the English and Normans are uniformly so depicted.

The Normans cultivated habits of distinguished simplicity. They were soldiers in bearing and physique, with clean-shaven faces, short cut hair and simple dress. They wore tunics of knitted wool, fitting to the body, like the jersey of a modern athlete. Over these were thrown loose woollen cloaks, buckled at the shoulder. They wore close-fitting woollen drawers, and leather shoes, and round skull caps. The ladies were equally simple in their attire—a loose woollen gown with a belt at the waist, a white shawl round the head, and shoes like the men.

These five chapters show the results of the Conquest. The

Conqueror gave to England order and unity, and the Normans brought with them a higher material and intellectual civilisation. They have left their mark on our land to this day, for they were the first great builders of stone buildings in our islands. In Figs. 33 and 34 are shown a typical castle and a typical abbey. The square and massive central building of the castle is the "keep" We have fine Norman keeps at such places as the Tower of London, and Rochester and Norwich Castles. But the lesser buildings in these and most other cases are of later dates.

Chapters xi.–xv.

The parallelism of the titles of Chapters XI and XIII. is obvious—"the Castles and the Abbeys" are the homes of "the Barons and the Church" The round arch of Norman architecture may be seen in Figs. 35, 36 and 42. You may see it also at Caen and elsewhere in Normandy.

Let it never be forgotten that in the first two centuries after the Conquest the barons spoke French and the monks spoke Latin. Fig. 38 will suggest how naturally French-speaking kings, such as Henry II, Richard I, and John, were at home either north or south of the Channel. The Latin-speaking Archbishop Becket was equally at home in every monastery of Western Europe.

Our attention is drawn to another side of Anglo-Norman civilisation in Chapters XIV. and XV. Shortly before the Conquest learned churchmen in Italy began again to study the Roman Law, and their Norman disciples early developed a keen appreciation of legal precision and forms. Magna Carta and Parliament were the outcome of the struggle for power between king, barons, and church; but the wording of the one and the constitution of the other were shaped under the influence of the new legal studies. The universities of Oxford and Cambridge were also fruit of the same movement.

Wealth increased after the Conquest, and the simplicity of Norman dress and manners was lost as early as the time of Henry I. Moreover, some of the English who had fled to Constantinople returned and brought back with them the luxurious ways of the East. On pp. 134 and 135 we see the

inevitable reaction to more ascetic ways, as shown in the movement of the mendicant friars and in the graceful purity and simplicity of early English architecture. Thus the thirteenth century differed in spirit from the twelfth.

The reigns of the first three Edwards mark one of the great changes in English history. Edward I was reconciled with his people, and put an end to the civil dissensions which had been so frequent in the reigns of Richard I, John, and Henry III, but he was still a French knight. Edward III in the latter part of his reign had become almost an Englishman Edward I forsook his ancestral claims to duchies and counties in France, but Edward III began the great attempt to conquer France as an English king. Under Edward I England is still in many ways a province of the great western European realm of the French knights and the Latin priests. Under Edward III and Richard III men of all classes in England are beginning to talk English, and by that very fact are becoming separated from the Continent. By the translation of the Bible, even the Church has shown a first tendency to insularity. These things should be made graphic upon the map of Europe.

Chapters xvi., xvii.

In Fig. 48 note that strictly speaking the Principality of Wales is limited to the region about Snowdon and the Menai Strait. It does not include the Welsh marches which had been dependent upon England since the time of William I.

There is a very interesting fact to be borne in mind in connection with the Conquest of Wales by Edward I. Although Kenneth MacAlpine made the Kingdom of Scotland in the ninth century, and held the Norse pirates at bay on most of the mainland, yet they kept their independence in the isles down to the year 1263. Then they were defeated at the battle of Largs on the shore of the Firth of Clyde, and their fleet was swept from the seas. Thus it was that the fleet of the Cinque Ports was able to sail round to Anglesea without interference, and took the Welsh in rear. These facts should be made

evident on the map of the British Isles We still have a trace of the Kingdom of the Isles in the Bishopric of Sodor and Man. Sodor is a corruption of Sudereys, the southern islands or Hebrides, as distinguished from the Nordereys, the northern islands of Shetland and Orkney. But the Bishop of Sodor and Man is to-day, except in name, Bishop only of Man

In Fig 52 note the battlefields round Stirling. Stirling Castle commands the passage of the Forth. It has the Firth of Forth to the east of it, and the Forth marshes to the west of it. To the north is the entry to Strathmore and the coastal plains of Buchan and Moray. The unique strategical importance of Stirling should be brought out clearly on a map of Scotland upon which the uplands and the lowlands are distinguished.

On some Saturday morning, if the school be near London, Westminster should be visited. The Stone of Destiny should be seen under the Coronation Chair in the Abbey, and the Woolsack should be seen in the House of Lords.

Fig. 55 shows the commercial position of England under Edward III. Just as British shipping now goes to Shanghai, in China, where there is a settlement of British merchants trading with the Chinese, so the Hansards owned the ships which came to London to take away British wool to be woven in Flanders, and maintained at the Steelyard a fortified settlement of their merchants within the very City of London itself.

If we contrast Figs. 56 and 59 with Fig. 38 we realise the changed character of the English position in France. In Fig. 38 we have great provinces shown in which Henry II is as much at home as in England. He was buried at Fontevrault by the Loire. In Figs. 56 and 59 we are shown the raids of the foreign English army into France. In Fig. 57 note the use of artillery for the first time in English battle. The guns were only three in number and made more noise than they did damage.

A fresh note is struck in Chapter XVIII. Just as the Battle of Hastings was the crisis of a great change which began beforehand, so the Battle of Crecy clinched and made

evident the fact that England was becoming English once more. Crecy, Poitiers and Agincourt are merely names to us now. We long ago lost everything for which they were fought; but they are still significant in our history, for we won from them our nationhood. Chaucer was as much the outcome of Crecy as Shakespeare was of the Armada.

Chapters xviii., xix., and xx

In Fig. 63 we have another English raid into France, to be set beside Figs 56 and 59. It is possible for an enterprising teacher, or still better, a party of teachers, to pay a most interesting visit to the battlefields of Crecy and Agincourt at a very small cost in a long week-end. In Fig. 64 note the *fleur de lys* of France on the drapery of Joan of Arc's charger.

The Battle of Bosworth resembled the Battles of Hastings and Crecy in one respect. It was a critical struggle of opposing forces, but its most significant result was that it laid bare and left evident a great change which had for some time been in progress. Notwithstanding the French and Civil Wars, English trade and wealth had been growing throughout the fourteenth and fifteenth centuries. The ever-increasing and costly luxuriance of detail in our architecture is a token of this. The simple Early English of the thirteenth century gave place to the more ornate Decorated style of the fourteenth century, and this, in turn, to the still more elaborate Perpendicular of the fifteenth century. The English commercial towns were growing rapidly, and whereas in the earlier centuries after the Conquest the display of architecture is seen chiefly in cathedral and monastic buildings, we now begin to have many parish churches. By far the greater number of our mediæval town and village churches are in the Decorated and Perpendicular styles. These should be identified in the neighbourhood and shown to the children.

Chapters xxi.–xxiv.

When the Wars of the Roses came to an end, civilisation was in process of taking another great leap forward. But the centre of the advance was not in Britain. Even Cabot, who

sailed in the employ of the Bristol merchants, was an Italian, and Erasmus, the great Cambridge scholar, was a Dutchman. Caxton did but bring to England the art of printing invented in Germany.

In Fig. 69 note that the Turks entered Europe by the Dardanelles some three generations before they took Constantinople from the European side.

Figs. 70 and 71 may well be the text upon which to found a lesson on the long alliance between France and Scotland. From the time of Bannockburn to that of Flodden, that is to say for more than two centuries, Scotland was in much closer relation, even socially, with France than with England. To this day there are many French words in use in Scotland. In Edinburgh and Glasgow you may still frequently hear of a "gigot" instead of a leg of mutton; and of an "ashet" instead of a plate. These are, of course, the French words *gigot* and *assiette*.

Shakespeare in "Henry V" has some delightful lines on the Franco-Scottish Alliance—

> "But there's a saying very old and true
> 'If that you will France win,
> Then with Scotland first begin'
> For once the eagle England being in prey,
> To her unguarded nest the weazel Scot
> Comes sneaking, and so sucks her princely eggs"
> (*Henry V*, Act I, Scene 2)

In Fig. 72 note the likeness of the costumes to those of playing cards. The Beefeaters of the Tower of London are also clothed in Tudor fashion.

Figs. 74 and 75 should be set beside the map of Europe. It must be remembered that at this time there was no German Empire. Spain and France were the most powerful kingdoms in Europe. The Netherlands were wealthy, and therefore a great support to Spain in her rivalry with France. Both parties to that rivalry feared that England might throw her weight into the other scale of the balance. Therefore France sought to neutralise England by marrying her king to the Scottish Queen, and Spain sought to gain England by marrying

her king to the English Queen. The death of Queen Mary of England in 1558, and the Reformation in Scotland in 1560, broke up the system. The Protestants of Scotland would not co-operate with the Catholics of France, and the Protestants of England hated Catholic Spain. Moreover, the Protestants of the Northern Netherlands presently revolted against Spain. Even in France there were many Protestants known as Huguenots, and there was civil war between the Catholics and the Huguenots. Germany was also divided against herself, there being Catholics in some parts and Protestants in other parts. It was under these circumstances that Spain made her great attempt to overthrow the Protestant Reformation by conquering England. The Catholics were predominant in the Southern Netherlands as they are to-day in Belgium. Therefore it was that the Armada was sent in the first instance to Calais in order that the entire Spanish forces might be collected against England. This whole episode of history should be visualised upon the map of Europe with the aid of Figs. 74 and 75.

Chapters xxv.–xxix.

The victory over the Armada, like the victories at Hastings, Crecy, and Bosworth, by clearing away a great hitherto undecided issue, left the ground free for a new movement which had been slowly preparing. In order to show the nature of the Puritan movement of the seventeenth century, it is necessary to tell the story of John Knox. Scotland having ceased to be the enemy of England is about to take a great part in the internal affairs of England. Her strength, such as it is, is available to be thrown, now in favour of this English Party, and now in favour of that. Fig. 80 shows the position of extraordinary natural strength which was occupied by the Scottish capital in the days before modern artillery. The Castle, the Church of St. Giles, and Holyrood Palace are the centres of Scottish life under the Stuarts. No one can understand the part which King James I played in London who does not appreciate the kind of apprenticeship which he had undergone as James VI in Scotland.

On p. 243 we become conscious of the part played by Ireland in English politics, as a basis of reserve power for the king. But Ireland had no national organisation such as had Scotland. There was no Irish initiative in the Civil War. In Figs. 88 and 89 we realise the essential facts in regard to the sister island. The English Pale was based on the stretch of low-lying coast between the Wicklow Mountains and the Mourne Mountains. Beyond the Pale westward, in the days of King Philip and Queen Mary, a new English settlement was planted which is marked on the map to this day by the King's and Queen's Counties. In the time of James I a Scottish settlement was effected in the eastern part of Ulster. These facts should be realised upon the map, and then the strife between incoming Protestants and native Catholics will be clear. The Reformation was rejected by the native Irish in no small degree for the reason that the Protestant cause was identified with the Plantations of Ulster and of the King's and Queen's Counties. The campaigns of Cromwell and of William III in Ireland are the outcome of the religious strife and of the use which the Stuart kings sought to make of it.

Fig. 90, again, shows how the battlefields of Scotland are for the most part associated with the east coast road. In Fig. 86 the spears of the infantry in the royalist ranks are pictured in the moment of coming down to resist the charge of the Ironsides.

These four chapters deal with what Sir John Seeley called the Second Hundred Years' War with France. Scotland was now ranged with England, and not against her. The Revolution of 1689 effected that finally by securing to Scotland her Presbyterian Church, as it secured to England her Protestant and Parliamentary Government. Note the three strokes by which William secures his position. Notwithstanding the defeat of Killiecrankie, he subdues opposition in the Highlands of Scotland. At the battle of the Boyne he defeats King James and the Catholic Irish. At the Battle of the Hogue, he defeats the

Chapters xxx.–xxxiii.

French fleet and secures the insularity of Britain, which had been threatened by the naval defeat off Beachy Head. Then he is free to throw the strength of Britain on to the side of Holland in her Continental struggle with King Louis XIV of France. Fig. 107 should be compared with Fig. 91.

The significance of sea-power for this country should be made evident at each stage of the French wars. It is evident in connection with the Battle of La Hogue, the taking of Quebec, the surrender of Yorktown and the loss of America, the victories of Camperdown and St. Vincent in the critical year, 1797, the Battle of the Nile and the defeat of Napoleon's oriental ambitions; and, finally, the Battle of Trafalgar, the effects of which were felt for a century afterwards. Fig. 114 is a hint of what might have happened had we lost command of the sea in 1797. Fig. 118 shows what our army was able to do owing to the fact that we held undisputed command of the seas round Spain and Portugal.

Be careful at the same time to show how the finance of Walpole, Dutch methods of farming, the new methods of industry, the steam engine and commerce with the Colonies supplied the sinews of war. Victory in war is impossible without a healthy national life. Show that the same thing is true in the life of each of us. From time to time we are faced with some emergency. We must take action, or we must stand firm, and upon the result of our conduct may hang the welfare of those dependent upon us. As a rule, that man or woman acts strongly and effectively who has prepared himself for a crisis by honest, healthy, energetic living.

Chapter xxxiv.

This chapter is merely a sketch. However important the history of the last few years may be to the adult citizen, it is too complex and too uncertain, and therefore debatable, for the earlier stages of school teaching. It is dealt with at length in two other volumes of this series. One aspect of it is treated in "The Nations of the Modern World," and another in "The Modern British State."

XI

"LANDS BEYOND THE CHANNEL"

IN the first two books of the Elementary Studies attention is concentrated first on the spread of space and then on the flight of time. "Our Own Islands" is in the main a book on geography. "Our Island History," as the name implies, is a history, though the teacher is asked to insist on the visualisation of events on their geographical stage. Having studied these two books, we can picture the breadth of Britain in space and its depth in time. From this point forward we shall no longer treat separately of space and time The remaining four books, including that upon which we now enter, each of them deal both with geography and history.

The pupils of our elementary schools are not going to be professed students, except in the very rarest cases. They are going to be men and women of the world. To them an event is simply an event. It takes place both in space and time. The reader of a newspaper is not tempted to abstract the geographical aspect of any event from its historical aspect, or vice versa. Only professed students have reason to abstract the one aspect from the other, just as only artists need consider form apart from colour. Let us, then, be practical in regard to our elementary teaching. Why should it not be as concrete in its treatment of human affairs as the newspapers, magazines, guide-books, and conversations to which it is intended to open the door? Blinkers may be useful to the student of a manuscript who does not want his attention diverted to the vivid present, or to the surveyor of a country who must not allow his mind to wander from his scientific

aim, but the teacher in the elementary school has to train broad discernment and balance of outlook.

There has been a movement of late for the separate teaching of geography and history in our secondary schools and training colleges. I have nothing to say against this. For practical reasons I think that under the prevailing conditions it is a necessary change. Very few of our history teachers have had a proper geographical training, and on the other hand most of our trained teachers of geography have approached their subject with a scientific bias, and have not adequate grounding in the humanities. By all means let our teachers learn their geography and history in separate classes, provided always that they learn both geography *and* history. The two blades of a pair of scissors may be separately made, but they do their work only when screwed together.

The only defensible ground for the separate teaching of geography and history in Elementary Schools, or for the teaching of one of them to the exclusion of the other, is that the teacher, having "opted" while at College for one or other subject, knows only one and must teach that which he knows. How often are we not told that any subject, if really well taught, will serve the purposes of education! The statement may be true of a university, or even of a secondary school, because a prolonged education may, from its incidental studies, give some sort of general outlook. But the child who leaves the elementary school to go into the world forthwith must carry with him a broad though simple outlook in geography and history or he will never attain to one. Astronomy may be a very fine training for a university honours student, but it would be the ruin of a child who must go into the work-a-day world at fourteen. The truth of the matter is, that owing to the relative novelty of elementary school problems, we have been far too prone to model our primary curricula on grammar school ideas.

The rational basis of a system of elementary education is not to be found in the stock-in-trade of the teacher. That is the implication of the view that any subject well taught will serve.

It is to be found rather in the consideration of the kind of man or woman we wish to send forth from our schools. We must shape our art to our end, not our end to our art. We need teachers adequately trained at College both in geography and history, but when they come to their life-work I would venture to say to them, "You have your equipment. Now throw pedantry to the winds. What you have to teach is not history and not geography. You have to give an outlook on to this great, richly vital, and concrete world where your pupils are going to spend their busy lives. Let no examiner sunder your teaching into separate subjects, which exist only in books, and for purposes of investigation. and not in the real world."

To teach little children history and not geography, or geography and not history, is as much as to blind them in one of their mental eyes. It is impossible to visualise in history unless with the aid of physical geography, and political geography is crude and misleading unless it is seen as the product of historical changes. Even if we teach both subjects but in separate classes, it is as though we sought to train one of our eyes at a time, forgetful of the fact that we have two eyes for stereoscopic vision. If we look at an object first with one eye and then with the other, we do not obtain a "solid" view of it.

The delightful simplicity of English History has always made it an acceptable subject of school instruction. In Germany they teach Weltgeschichte—World History. The Germans are continental, but we are insular. Our school history takes cognisance of the outer world only when the outer world thrusts itself upon us, as did France during the Hundred Years' War and again in Napoleonic times, and as did Spain at the time of the Reformation. But we obtain no sense of the stream of French or Spanish history. France and Spain come into our historic heavens and disappear like comets, whence and whither is not our concern.

In these days when the sea has ceased to be a barrier, and when the Antipodes are as near to us as were the Western Isles of Scotland to London in the time of Dr. Johnson, we cannot any longer maintain our insularity, even if we would. The surface of the world is some sixteen hundred times greater than the area of the British Isles, and it bears more than fifteen hundred million people. What is the influence of all these people upon the forty-five millions who inhabit these islands, and what the reaction of the forty-five millions on the world outside? Until we answer these questions we cannot give a modern reply as to where we are, and it is essential that a modern reply should be given by the youth of a democratic nation which is charged with the rule of one-fifth of the globe. The democracy must be sympathetic with other races if the Empire is to continue, and sympathy between alien nations, as between separated individuals, springs from the memory of the past. The memory of the old home holds brothers and sisters together whose destinies have parted. The feeling is like that which was known to the ancients as "piety." The Jew, the Christian, and the Mohammedan all pray to the God of Abraham. Therefore they should not call one another pagans, however great their other differences.

It is idle to say, as many do, that we should teach that which is near, and teach it thoroughly. It is true no doubt, that the village child is interested in the village pump, and that geography should begin with the Home. It is also true that the child is interested in persons, and that history should begin with the Heroes. But it is our business as teachers to lift our pupils to higher points of view, so that in geography they may see beyond the horizon, and in history they may see ideas as well as persons. In our modern world of railways, steamers, and telegraphy the distant facts are often more important, even for the man in the street, than are the near. That is why there is a new demand upon us to train and develop the visual imagination. Most of those who think parochially do so not merely from the intensity of their interest in the things at their door, but because they

have never been braced for the effort to take the larger view. They have never learned to trust and joy in the power of their mental wings. They love the detail which is near them, for the same reason that a woman knits and a man smokes, in order that they may be occupied and yet relax effort.

Undoubtedly the demand which I am making is a heavy one. Yet I believe not only that it must be satisfied, in the interest alike of democracy and of empire, but also that it can be satisfied, even under the conditions of the elementary school. The little book before us, "Lands Beyond the Channel," is my attempted solution of the problem. I try to teach European History through European Geography. I describe the countries in the order in which they enter History, and I narrate the events which have made each country significant.

It is in my opinion futile to tell the story of the world *as a story* in a small text-book. Such books we have in abundance, and they are indigestible pemmican. No history is worth learning as a matter merely of names and dates. But we cannot *visualise* events unless we have the geographical knowledge for their setting. Therefore we should begin with Geography. Moreover it is the present which matters to the ordinary citizen, and the past is important to him only as it explains the present. By selecting the order of the countries with an eye to history, we can accomplish our two objects at once. We describe the Arabian Desert and the Meccan oasis, and then we tell of Mohammed. If we have previously told of Sinai and Jerusalem, and of Moses and Christ, we can place Mohammed in historical perspective. The main stream of history now swerves to this country and now to that. Thus we give what the French call actuality to the *results* of history.

"Lands Beyond the Channel" is at once a geography and history of Europe, but the geography takes the lead. The book will itself build up the geography in the mind of the pupil, but the teacher will, by question and comment, help him to fit the history into sequence.

In regard to physical basis, the methods are those of

"Our Own Islands." As is stated in the preface to "Lands Beyond the Channel," I have felt that the effort to grasp the map of Europe as a historical document is enough for one step forward, and therefore we continue to postpone such mathematical conceptions as latitude and longitude, and isometric climatic lines. Such conceptions call for a world treatment and not merely for a regional treatment.

The chapters of this book may be grouped into five sections. The first eleven chapters contain the detailed description of France, as a type upon which the extended treatment of the geography of any other country may be built. France is our nearest neighbour, and has had most to do with our history. But apart from that fact, France was the scene of two of the greatest events in the political history of modern Europe, the French Revolution and the War of 1870–71. Five chapters are then devoted to the Mediterranean, and to the contrast between Christendom and Islam. These two sections might appropriately occupy the first term of a three-term year.

Having learned our method in France, and having grasped the historic equivalence of Europe and Christendom, we commence to take the countries in their historical sequence. Seven chapters are given to the lands which lie round the Eastern and Central Mediterranean. These chapters are so arranged that while each describes a fresh region we descend the main stream of western history. These seven chapters are the heart of the book. They lend themselves as a text for most interesting oral teaching, and it is suggested that they should occupy the second term of a three-term year.

Three chapters then follow which deal with the Alps, and the great rivers which flow from them. These are the central physical features of the European peninsula. To the south and west of the Alps are the lands of ancient and of early mediæval civilisation. To the north and east of the Alps are the parts of Europe which have been added to Christendom and to civilisation in relatively late times. The book concludes with six chapters devoted to the German and Slavonic lands of the newer Europe, and with a terminal chapter

contrasting the Great Powers of Modern Europe. These last ten chapters should be the business of the third term of our year.

The new note is struck in the very first sentence: "We are going abroad." At the opening of our new term and year we enter a fresh atmosphere. The first chapter consists in effect of practical directions for a trip to Paris. A trip to Normandy and Brittany follows. A journey by steamer from London to Bordeaux is not very costly either in time or money. Tie the school-book to practical objects, so that when school has been left and opportunity comes the pupil may perhaps return to the book. **Chapters i.–xi.**

The campaigns of Crecy and Agincourt and the raids of the Black Prince from Bordeaux, as shown in Figs. 56, 59 and 63, of "Our Island History," should now be referred to in order that they may be put into their setting amid the physical features.

In connection with these chapters refer back to the Crusade of Richard I as shown in Fig. 43 of "Our Island History." Also work out from the Acts of the Apostles the journeys of St. Paul. **Chapters xii.–xvi.**

These chapters which are, as has been said, the heart of the book, have been so arranged as to give the main stream of early history. The history is told in a geographical setting. Therefore it is for the teacher to supply the complimentary chronological setting. As an aid I here reprint the Table of the Centuries which stands at the commencement of "Our Island History," and beside it I have set another Table of the Centuries, constructed on the same principle. Each century occupies the same space, so that the steady flow of time may be visualised. **Chapters xvii.–xxiii.**

BRITISH ISLES

CENTURIES

B C. 1st —55 and 54 Julius Cæsar in Britain

A.D. 1st.—43 Claudius in Britain. 78 Agricola in Britain.

A.D. 2nd —Roman Occupation of Britain.

A D. 3rd.—Roman Occupation of Britain.

A D 4th —Roman Occupation of Britain

A D. 5th —410 Roman Legions withdrawn. 449 Hengest and Horsa [land in Thanet.

A D 6th —519 Foundation of Wessex. 577 Battle of Deorham 597 [Augustine lands in Thanet

A D. 7th —627 Conversion of Edwin by Paulinus. 664 Synod of [Whitby.

A D 8th —731 Bede finishes his History.

A.D. 9th —802 Egbert. 871 Alfred the Great

A D 10th —901 Edward the Elder 925 Athelstan. 993 The Raid of [Sweyn and Olaf.

A D. 11th —1016 Canute. 1042 Edward the Confessor. 1066 William I. [1087 William II 1100 Henry I

A D. 12th.—1135 Stephen. 1154 Henry II 1189 Richard I. 1199 [John

A D 13th —1216 Henry III 1272 Edward I

A D. 14th —1307 Edward II. 1327 Edward III. 1377 Richard II. [1399 Henry IV.

A D 15th.—1413 Henry V 1422 Henry VI 1461 Edward IV. 1483 [Edward V 1483 Richard III. 1485 Henry VII

A D 16th.—1509 Henry VIII. 1547 Edward VI. 1553 Mary. 1558 [Elizabeth

A D. 17th.—1603 James I 1625 Charles I. 1649 Cromwell. 1660 [Charles II 1685 James II. 1688 William and Mary

A.D. 18th.—1702 Anne. 1714 George I 1717 George II. 1760 [George III.

A.D. 19th.—1820 George IV. 1830 William IV. 1837 Victoria

A.D. 20th — 1901 Edward VII. 1910 George V.

THE WORLD

CENTURIES

B C. 5th —490 Battle of Marathon.

B C. 4th —336 Alexander the Great. 332 Foundation of Alexandria

B C. 3rd —264 First Punic War begins 218 Hannibal invades Italy

B.C. 2nd —148 Roman Conquest of Macedonia and Greece.

B C. 1st.—63 Roman Conquest of Palestine 58–51 Conquest of Gaul
[and Invasions of Britain by Julius Cæsar.

A D. 1st.—47–59 St. Paul's journeys. 70 The Destruction of Jeru-
[salem.

A.D. 2nd.—117 Hadrian, Emperor. 161 Marcus Aurelius.

A D. 3rd.—270 Aurelian, Emperor. 284 Diocletian, Emperor.

A D. 4th.—324 Constantine founds Constantinople.

A D 5th —414 Goths invade Spain and Gaul. 451 Battle of Chalons.

A D 6th —527 Justinian 568 The Lombards invade Italy.

A D. 7th.—632 Death of Mohammed. Beginning of the Saracen
[Conquests

A D. 8th —732 Battle of Tours. 800 Charlemagne, Emperor.

A.D. 9th —885 Siege of Paris by the Northmen.

A.D. 10th —962 Otto the Great of Saxony becomes Emperor. 1096
[The First Crusade.

A.D 11th —1001–1025 The Mohammedan Conquest of India.

A D 12th —1187 Saladin takes Jerusalem.

A.D. 13th.—1206 The Mongols under Jingis Khan invade Europe.

A D 14th —1341 The Turks cross the Dardanelles. 1346 Crecy. 1356
[Poitiers.

A D. 15th.—1453 The Turks take Constantinople. 1492 The Discovery
[of the New World by Columbus.

A D 16th —1517 Martin Luther begins the Reformation. 1530 Charles
[V, Emperor.

A.D 17th —1643 Louis XIV of France. 1683 The Turks besiege
[Vienna.

A D 18th —1740 Frederick the Great of Prussia. 1756–1763 Seven
[Years' War.

A.D 19th —1804 Napoleon, Emperor of the French. 1870–1871
[Franco-Prussian War.

A.D 20th.—1904 Russo-Japanese War. 1913 Balkan War.

The story of Britain was anchored at the beginning of "Our Island History" to the narrative of the invasion of Cæsar, and that narrative was given as far as possible in Cæsar's own words. Then Tacitus, Bede, and the Anglo-Saxon Chronicle were laid under contribution. In this Christian country we have an admirable basis for world-history in the narrative parts of the Bible.

In connection with these chapters let us begin to develop the broad principles of physical geography as they were left when we finished the study of "Our Own Islands." On p. 139 will be found a little map showing the seasonal distribution of rain in this part of the world. Compare this map with Fig. 101, showing the winter cold of north-eastern Europe, and the relative warmth of north-western Europe. A combination of the facts stated in these two maps will give a working knowledge of the great contrasts of European climate. The descriptions of the Alps, Switzerland, the Danube, and the Rhine should be carefully studied and visualised upon the map of Europe, from a physical point of view on the one hand, and on the other hand as most potent causes of contrast in the political geography.

Chapters xxiv.–xxxii.

This chapter should obviously be studied with the map of Europe before us, and each statement made in the text should be tested and expanded by question and answer derived from this book at large.

Chapter xxxiii.

XII

"DISTANT LANDS"

THESE little books have been written according to the principles which are known as progressive and concentric, words that were originally used in this connection as a protest against methods in vogue a generation ago. The older text-books traversed the successive continents according to precisely the same method, so that South America might be studied in the twelfth year in the same way as Africa had been studied in the tenth year. Naturally there was monotony in such a course. The good teacher spurned geography, because his pupil was merely accumulating facts, and making little or no intellectual progress. It would not be too much to say that such text-books inverted the progressive method, by placing on their opening pages a chapter devoted to mathematical geography.

The concentric method lends itself to a treatment of progressive difficulty. While we are spelling out the A B C of the subject we deal with the Home and the Home Country. When we come to deal with the distant parts of the world we can move by short cuts and with greater accuracy because we have already learned to think geographically. Slip-shod teaching in the earlier stages is then found out, for the pupils who have not "progressed" lose their bearings and their interest.

The concentric method must not, however, be pressed too far. The untravelled man does not look upon his home in the same way as the travelled man. Everything in geography and history should be considered twice at least. First we

consider places and events in themselves, that is to say, concretely and absolutely. When we have learned of other places and events, we return to the *relative* consideration of the previous places and events. In the course of instruction proposed in this book we have two complete progressions from the Home to the Globe. We started from the Home in infancy, modelling and drawing the objects around us. Then we lifted our eyes to the sun which we can see, and from that came down to the round earth, which we cannot see. We learned to know the surface of the globe, mottled with its lands and ocean, and we identified the position of Home upon the globe.

Then we started again from Home, but this time with the globe in the back of our minds, or in other words with some sense of proportion and perspective. We traversed our own Islands, and travelled down through the story of our race. Then we turned our eyes across the Channel, according to the concentric method, and considered the lands of Europe and around the Mediterranean. At the same time we learned something of European History, in order that we might place our British History in its European perspective. Now we return once more to the globe, but we come to it equipped with a considerable geographical and historical experience, and we may devote ourselves to the more precise mathematical and physical methods, which have hitherto been deferred.

Much time has been devoted in Geographical Societies to the discussion of the question whether Geography is a science. Some have decided that it is, and have assigned the teaching of it to the science master in the Secondary School, and to the Faculty of Science in the University. Some have decided that it is not, and have left it to be taught incidentally by the historian. In my belief we waste our time in these attempts to "range" our subject. Geography, as I understand it, is at once science, art, and philosophy. There are few grander scientific monuments than the map of the world as we have it to-day. Myriads of separately observed facts have gone to its compilation. Those facts have been measured and classified, and constitute a body of reasoned knowledge which

is undoubtedly scientific. With the aid of this knowledge we answer the first geographical question, "Where?" When, however, we pass to the second question, "Why there?" we become philosophical. Not a few geographical facts were placed by human agency, perhaps in some cases by human caprice. On the other hand geographical environment has played a great part among the causes of history. Here we are involved with the philosopher in the problem of Free Will. But there is still a third aspect of geography. We have only half answered the question, "Where?" when we have given the scientific answer. When we have all the facts, registered by the labour of all the generations which have gradually built up the map of the world, we have still to acquire the artistic faculty of combining them visually. We must not merely read the map of Italy and register in our mind its boot-like outline, but must translate it into blue sky, and blue sea, and brilliant sunshine, and brown coastline, and rugged mountain, and dark chestnut forest, and we must crown the highest peaks with caps of snow. We must see it vividly in the foreground, and then by an effort of imagination we must continue it for a hundred miles, and again for several hundred miles beyond the horizon. White in the southern light we must see the towns—Florence, Rome, Venice, and the rest of them—not merely set in their natural environment, but each in its own historical tint. Finally we must see the whole complex vision in a state of slow but ceaseless change, both physical and historical.

It is because of its triple nature that I value geography as a weapon of early education. Intelligent boys of eleven, twelve, and thirteen will revel in its concrete philosophy, where the abstract questions so often set for essays merely bore them, and result in barren word-spinning. The analysis of the position of London or of Paris is well within the grasp of a boy of eleven. So are the differences of human activities on the sea, in the forest, in the oases, and on the mountains. Nor, as I can testify from personal observation, are even the delicacies of land-form beyond the perception of deft young craftsmen with modelling clay.

"Distant Lands" is a more difficult book than the two books which precede it, and is meant to be more difficult. The first two chapters must be taken slowly. They should be made the centre of some careful oral teaching. If the initial difficulty which they present be honestly surmounted the remainder of the book will be compassed easily, for the minds of the class will have been tuned to the kind of reasoning which it presents. In order to obtain a dramatic interest the scientific explanations have been given in the order of their discovery. A historical thread runs through the physical geography, and we thus take a long step forward from merely European to World History.

The first two chapters concern the Greeks, to whom we owe the science of Geography. The very name consists of two Greek words, *Ge*, the earth, and *grapho*, I write or describe. The object of the first chapter is to resume at the commencement of the new year so much of our past teaching as is needed for our jump-off.

The second chapter is the crucial chapter of the whole book. It should be mastered slowly, step by step, for it contains the central facts of geographical science. It is not a bad thing that it comes early in the year while our minds are fresh. In some of the later chapters we obtain the relaxation of mere description. If there be a principle of teaching to add to our progressive and concentric principles it should be that of rhythm. Our teaching should advance as it were in waves, alternately of difficulty and ease, calling for effort and allowing of rest. As an undergraduate at Oxford I heard the famous Archbishop Magee preach. He preached for an hour. His sermon consisted of a dozen paragraphs, each of about five minutes. In the first two and a half minutes he would reason and establish his point, then for the remainder of the paragraph his voice would settle down to a recitative, and with matchless eloquence he made us realise the significance of the point which he had established by logical wrestling. So should we arrange our teaching, alternating the character of our lessons.

The essence of the first chapter, when once it has been read through, may be seized at a glance in Fig. 2, which shows the Land of the Five Seas. This map depicts what may be described as the Geography of the Bible. **Chapter I.** The essential features are the two alluvial plains, Babylonia and Egypt, and the road between them, which lies through a desert. In such a country as ours these alluvial plains would be fens, but in Saharan latitudes they lie under cloudless skies and a hot sun. The rains and snows which nourish their crops fall, not on the spot, but on the distant table-lands of Abyssinia and Armenia. Babylonia and Egypt would be marsh and desert alternately were it not that by infinite toil of spade labour the soil has been irrigated. Irrigation postulates discipline and industry. It postulates also the clear definition of private rights for the sharing of water. This definition was achieved by measurement and by law. Hence the most ancient legal code we have, the Code of Khammurabi, more ancient even than the Decalogue of Moses, is intricately concerned with irrigation rights. The first land-surveys of which we have record were made by the Egyptians for purposes of irrigation.

Here are two of the clauses of the Code of Khammurabi:

"If any one is too lazy to keep his dikes in order and fails to do so, and if a breach is made in his dike and the fields have been flooded with water, the man in whose dike the breach was opened shall replace the grain which he has destroyed. If he is not able to replace the grain, he and his property shall be sold, and the people whose grain the water carried off shall share.

"If any one opens his irrigation canals to let in water, but is careless, and the water floods the field of his neighbour, he shall measure out grain to the latter in proportion to the yield of the neighbouring field."

There was, however, a difference between Babylonia and Egypt of no small significance. In the broad Babylonian plain men built with bricks and kept their records written on tablets of brick. In Egypt, on the other hand, stone—limestone

and granite—were available in the long hill brinks with which the narrow valley is bordered. Hence the stone pyramids and temples of Egypt, and such records as the Rosetta Stone. For these and other reasons the civilisations of Babylon and Egypt were different and a commerce sprang up between them. So rose to importance, as is explained in the text, the intermediate cities from Tadmor to Jerusalem. To make your teaching at this stage vivid, it would be well to read afresh the chapters of "Lands Beyond the Channel," which deal with Egypt, Syria, Greece, and Mecca.

Outside the Biblical world of Egypt, Syria, and Babylonia, are regions which you now proceed to take into account. On the one hand are the innermost pockets of the Western Ocean and on the other hand the corresponding pockets of the Eastern Ocean. To the north-east and north Babylonia is bordered by a great belt of plateau, commencing in Persia, rising higher into Armenia, and descending again lower into Asia Minor. Then there is the remarkable break of the Ægean Sea, with the Greek islands and peninsulas. To exhibit these facts an "orographical" *wall map* should be used with the uplands and lowlands distinguished by colour.

There are several series of such wall maps. Usually the uplands are in brown and the lowlands in green, the depth of tint being graded according to sub-divisions of height. Obviously there is an objection to a change from brown to green in the middle of the scale of heights. I have myself edited a series of wall maps in which the sea is shown in blue, but all the land in varying tints of brown. Provided that the class be not too large, I believe that there are advantages in using maps so coloured, but for large classes it is necessary to employ maps upon which the contrasts are more strongly expressed.

Now dramatise upon the map three great national movements.

1. The Phœnicians of Tyre and Sidon, kin by their language, to the Hebrews of Jerusalem and the Arabs of the Desert, built ships from the cedars of Lebanon, and sailed across to

Cyprus, which is visible from the mainland. Thence their voyages extended to all the shores of the Mediterranean, and even to Britain.

2. The Persian horse-riders came down from their upland, as is told in the Bible, and conquered Babylon, and Phœnicia and Palestine, and Egypt, making the great Persian Empire. They even spread into Asia Minor, and attacked the Greeks, who defeated them in famous battles at Marathon and Salamis.

3. The Greeks sailed the waters of the Mediterranean in competition with the Phœnicians, but finally Alexander of Macedon crossed the Dardanelles and conducted the wonderful campaigns which are narrated in the text. So the Greeks took the place of the Persians as the rulers of the Biblical world. The new city of Alexandria, placed upon the seashore and therefore accessible from the Ægean Homeland, became the largest Greek city. The native cities of the interior Memphis and Thebes, fell into decay. The boundaries of the world as known to the later Greeks should be pointed out on the *globe without names*.

We now approach the very heart of geography. The chapter begins with the statement, "Science depends on measurement." Nevertheless we must be careful to prevent our treatment from becoming abstract. **Chapter ii.** At every step let us show things, before we seek to define them. In connection with the first paragraph we may begin by making a zigzag traverse with the aid of a *compass* and *notebook*. Explain the use of the log line, and how it is that sailors speak of a mile as a knot. They say that the ship is running so many knots an hour.

The expression "dead reckoning" signifies that we have merely followed our noses, and have allowed nothing for zigzagging which almost invariably leads to an exaggeration of the distance between the points of departure and arrival, whether we go by ship upon the sea or by road upon the land.

We place ourselves in imagination beside the Greek

geographers of the Museum of Alexandria. Our children are to pass through the same experience which mankind passed through in the childhood of the world. Our great-grandfathers and great-grandmothers used to be taught "The Use of the Globes." In old houses you may still often find a pair of globes preserved as ornaments, the one a terrestrial and the other a celestial globe. For a child, however, it is a little difficult to realise the celestial sphere by looking at it from without. I have lately seen a very simple device which I think greatly reduces this effort of imagination. Mr. Duncan McEwan, of Alexandria, Dumbartonshire, has made an *umbrella* upon the inside of which are represented the constellations of the northern hemisphere. The Milky Way is seen stretching as a silvery belt across the dome of the umbrella when we look up into it. The stick of the umbrella passes through the Pole. By cutting off the handle, and reducing the stick to an appropriate length, it is possible to make the umbrella roughly concentric with a terrestrial globe held beneath it. The umbrella stick should of course be made to prolong the axis of the globe. Everything which is described in this chapter in connection with the stars, with the single exception of the Southern Cross, can be demonstrated with the greatest simplicity with the aid of such an umbrella. It has this advantage, that when held up and so turned that the Pointers of the Plough are in their proper position for the moment, you can find the direction of any star, even when it is hidden by broad daylight. Messrs. Reid and Todd, of Sauchiehall Street, Glasgow, are sellers of these umbrellas, whose design has, I understand, been registered.

The principle of the angular division of a circle, as shown in Figs. 12 and 13, should, of course, be demonstrated with a pair of dividers upon paper. In regard to Figs. 14 and 15 it may be observed that one of the little electric hand lamps, which are now so commonly used for throwing a flash into a dark room or garden, will serve very conveniently to cast a sharply-defined shadow.

Thus far we have dealt with the observation of geographical

facts. Now we must consider the methods of depicting the duly observed facts upon a map. For this purpose we require an electric lamp, which may be fitted on to any socket, with the outlines of the continents drawn on its glass globe. If electricity be not available, the outlines may be shown on the globe of an ordinary oil lamp The lines should be drawn very black and thick so that they will cast appreciable shadows. Make a cone of translucent paper and fit it over the globe as described in the text. With a camel's hair brush, and ink or paint, follow the lines of shadow projected on to the cone. Then unroll the paper. You will have a map which has been projected on to a conical surface, and that map has then been "developed" or unrolled.

In order to maintain the consciousness of the artificial character of the lines of latitude and longitude, it is better in the first instance not to *draw* them upon our globe, but to place them upon it by means of string or wire circles and nettings. A set of such circles of diminishing radius for every tenth degree from the Equator to the Pole, and a netted hemisphere of longitudes and latitudes can be easily made for use with the nameless globe.

At this stage it is not a bad thing to note the lie of some of the features already known, such as the Strait of Gibraltar and the Cape of Good Hope with reference to some of the chief lines of latitude and longitude. The children should be asked to indicate with their fingers upon the globe given lines of latitude and longitude, the string guides having been removed.

The difficulties of the first two chapters having been surmounted, we have a long smooth run of plain, and it is hoped interesting reading, until we come to Chapter XV., which is devoted to the subject of longitude and time. The difficulties of this chapter will be found to vanish if the wire net which has been fitted over the nameless globe has meridians at intervals of 15 degrees, each such interval being the equivalent of one hour

Chapters iii. to xix

of time. Chapter XVI., which deals with the winds may also be demonstrated upon the nameless globe with the aid of wire circles of latitude. In connection with Chapter XVII. a few copies of recent weather charts issued by the Meteorological Office, South Kensington, should be obtained. They are clearer and altogether more graphic than the charts printed in the daily newspapers. Moreover they are the original authorities from which the newspaper diagrams are copied. An annual subscription of £1 will secure a daily copy of the official chart by post.

XIII

"THE NATIONS OF THE MODERN WORLD"

THIS book is related to the preceding book much as "Our Island History" is related to "Our Own Islands." Geography took the lead in "Distant Lands," and history was subordinate History takes the lead in the book before us, and geography is subordinate. Our object is to explain the political geography of to-day as the outcome of the recent history of the world.

This book presents, and is intended to present, a fresh kind of difficulty. The difficulty of "Distant Lands" lay in the effort necessary to grasp scientific ideas. The difficulty of this book lies rather in its literary construction.

We have reached the thirteenth or fourteenth year of the child's life, and it is proposed that there should be a change in the relation of the book to oral teaching. The children are approaching the end of their school life. We should, therefore, seek to wean them, more and more, from dependence on the teacher and to make them independent as readers. Hitherto our books have been texts for the purpose of focussing oral teaching. Now it is suggested that the book should be allowed to take the lead.

Elementary books dealing with simple things may consist of short words, short sentences, short paragraphs, and short chapters. We may break into our reading of them frequently for purposes of comment, because the sentences and facts are in no small degree detached from one another. But once we leave childish books every one knows that a certain patience is necessary for the reading of anything worth reading. The

higher and inner meanings of books do not lie on the surface. A certain effort is necessary in regard to the initial chapters of almost any vital work. That is so even with a standard novel. To begin with we must let the author lift us to his own plane. Until we reach his standpoint we cannot expect to see the things which he can see. If his meaning is in the least subtle we must grow accustomed to the atmosphere of his thought. Gradually as we read we become acclimatised. Our minds move more easily, and at last the pith of the matter flashes upon us. We have received a message. We have understood something which was not self-evident. Our intellectual horizon has been permanently widened.

Many people have never learned to read seriously. They grow impatient if the meanings are not obvious from the first. Their minds are of the "tit-bits" order. They require a series of items and they amass merely heaps of information. When they try, for instance, to read a play of Shakespeare they read it sentence by sentence, and though they may see the meaning of the separate sentences, they find the play dull and it does not grip their interest. They should have begun by reading rapidly through the whole play, and then, and only then, should they have paused over the separate scenes and sentences in order to appreciate the contribution which each makes to the meaning of the whole. Or let us suppose that the good resolution has been formed to read Darwin's "Origin of Species." How many readers can possess themselves in patience while Darwin accumulates his data before drawing his conclusions? Yet without patient reading we cannot really understand the Darwinian principles which have penetrated into almost every sphere of modern thought. To this day how many are there not content with the crude idea that according to Darwin men were once monkeys!

"The Nations of the Modern World" has, then, a definite pedagogic object. It has been so written as gradually to develop a central theme. The intention is to present a book to our pupils which shall resemble rather the books which

they should read in the future than those of which they have had experience in their short past. The whole book has more meaning than the several parts of which it is composed. The parts are, as it were, the organs of an organism. Oral teaching in connection with such a book should aim not so much at impressing the facts dealt with, as at helping the young reader to perceive the running meaning.

Read, therefore, with a certain rapidity and without interruption. Read aloud in natural tones, as though the author were himself speaking and were endeavouring to drive home his points. When each chapter is finished, look it through again for the purpose of clearing up any difficulties in regard to the meaning of particular words or sentences. It will be found that many things which appeared difficult when first encountered have been explained by what followed. After a few rewards of that kind, young readers will become easier and happier in their handling of books.

Finally, read the whole book a second time, and epitomise its argument. Refer back to passages in any of the previous books which you may remember as illustrating the points under discussion. It will be found that the statements of the earlier chapters have taken on a new and richer meaning in the light of the gist of the whole book. In planning out the year's work at least a third of the time should be allotted to this second reading.

A short argument has been prefixed to each of the five parts of which the book consists. The intention is to direct conscious attention to the literary structure, and to initiate the habit of epitome and analysis. The helpful teacher will seek to induce mental perspective by lifting to higher significance the clinching sentences of each chapter and part.

The five parts have geographical titles—The Narrow Seas, Europe, The Ocean, The World, The British Empire. Clearly we have here something in the nature of a concentric treatment, and it is obviously intended to apply to the British Empire the conclusions drawn from that treatment.

Part I lays the foundation of the argument, and gives the preliminary data. Four peoples are singled out for first treatment because they have organised the modern world. The title of the Part—The Narrow Seas—is intended to indicate that these four peoples constitute a group or family with a common geographical environment.

We turn with curiosity to the argument of Part II, and there we read the critical sentence, "By the victory of Trafalgar Britain won command of the ocean, and isolated Europe." Of the four peoples named in the argument to Part I, the English are here selected as winning the decisive victory—the victory, that is to say, which decided the political arrangement of the world in the age which followed. As a result of Trafalgar the world was divided for political purposes into two parts. On the one hand was Europe, meaning clearly the Continent of Europe, and on the other hand was the Ocean, including obviously the Lands Beyond the Ocean. The Ocean and the Lands Beyond the Ocean became the special field of British activities, whereas Britain stood aloof from the Continent of Europe.

Part II bears the title "Europe." Part III is entitled "The Ocean." Clearly Parts II and III deal with two streams of contemporary history, the one within Europe and essentially Continental, the other without Europe and essentially Oceanic and British. Trafalgar split the stream of history into two, which flowed respectively through the Europe of Part II and the Ocean of Part III.

Now we turn to the argument of Part IV, in the full expectation that we shall there find the key to the argument of the book as a whole. There, sure enough, we read that the conditions established by Trafalgar lasted for more than two generations, but that of late the world has again become one, and Europe no longer lives apart. Once more there is a competition for primacy on the Ocean.

Finally we turn to the argument of Part V in order to find the application of this key-idea to the British Empire. There we are told that until lately the strength of the Empire depended

almost entirely on the strength of the Home Country, but that the new situation of the present time is compelling a re-organisation of British resources. In other words, it follows that when we describe the British Empire we must not describe it as though its geography were something fixed and immutable, or subject only to material growth in its new countries. We must think of it rather as an organisation, the whole conditions of whose existence are at this moment in process of change. The Empire was created for the most part under the conditions depicted in Parts II and III of this book. It is now in process of adaptation to the very different conditions described in Part IV.

Thus we aim at putting our pupils into a practical state of mind. They are looking with mental eyes on things which are changing as they look. The history of the world is not finished. Their school-book has not told of things to be learned merely for purposes of examination and inspection, and then to be forgotten with impunity. Our pupils ought to go out into the world expecting great events to happen, ready to follow them intelligently when they do happen, and interested in them because they know their antecedents.

XIV

"THE MODERN BRITISH STATE"

THIS book calls for no detailed commentary, but a few words on the structure of it may perhaps be helpful. Chapters I.–XII. deal with the diffused social structure, and Chapters XIII.–XVIII. with the central or national organs of control. The final chapter on The Throne is devoted to the historic principles which give such extraordinary flexibility and adaptability to British Institutions, so that within the same Empire, and in the name of the same Monarch, we manage to combine the rule of many different peoples in many different stages of development. From this point of view the British Empire is the most potent means for the securing of peace and goodwill on earth that has ever been achieved.

It may perhaps be necessary to say a word in defence of the simple chapters with which the book begins. We must not forget that four out of five children in this country are now brought up in towns, and two out of five in towns so large that they know very little of country life. Many young men and women in London have never given thought to the simple but fundamental and natural forms of Society which are described in the first four chapters of "The Modern British State."

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